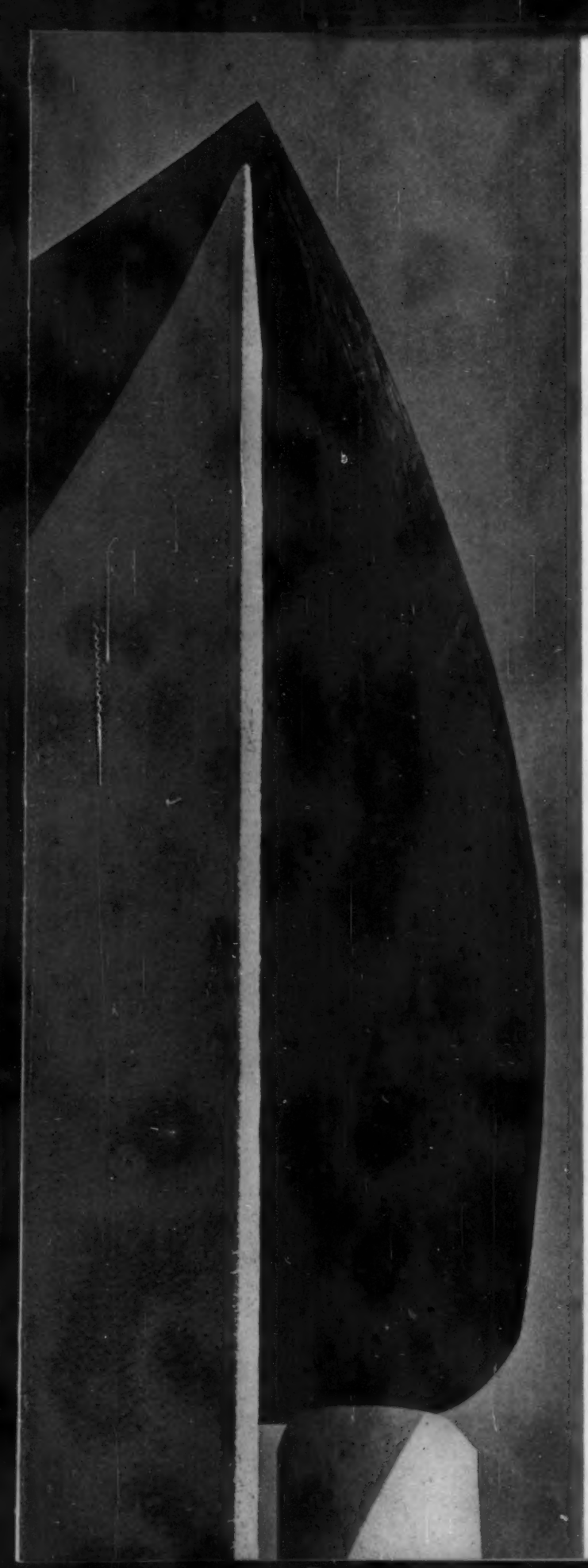

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3 *March 1958*

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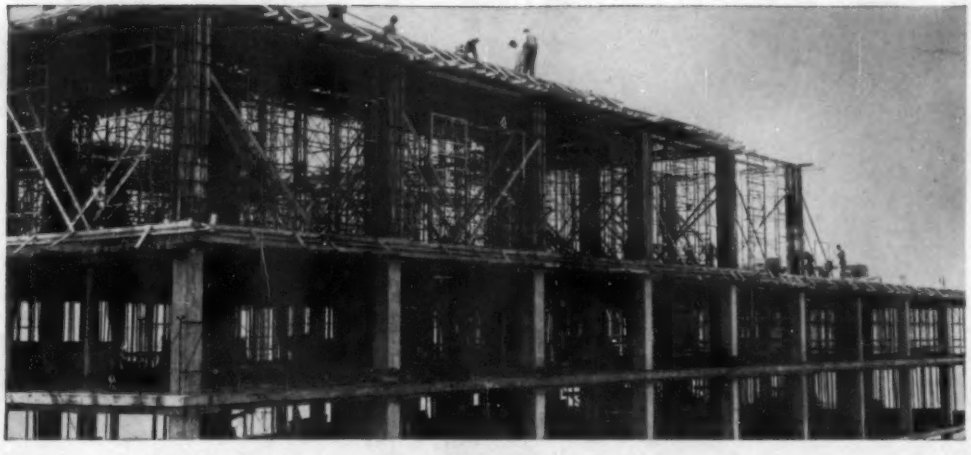

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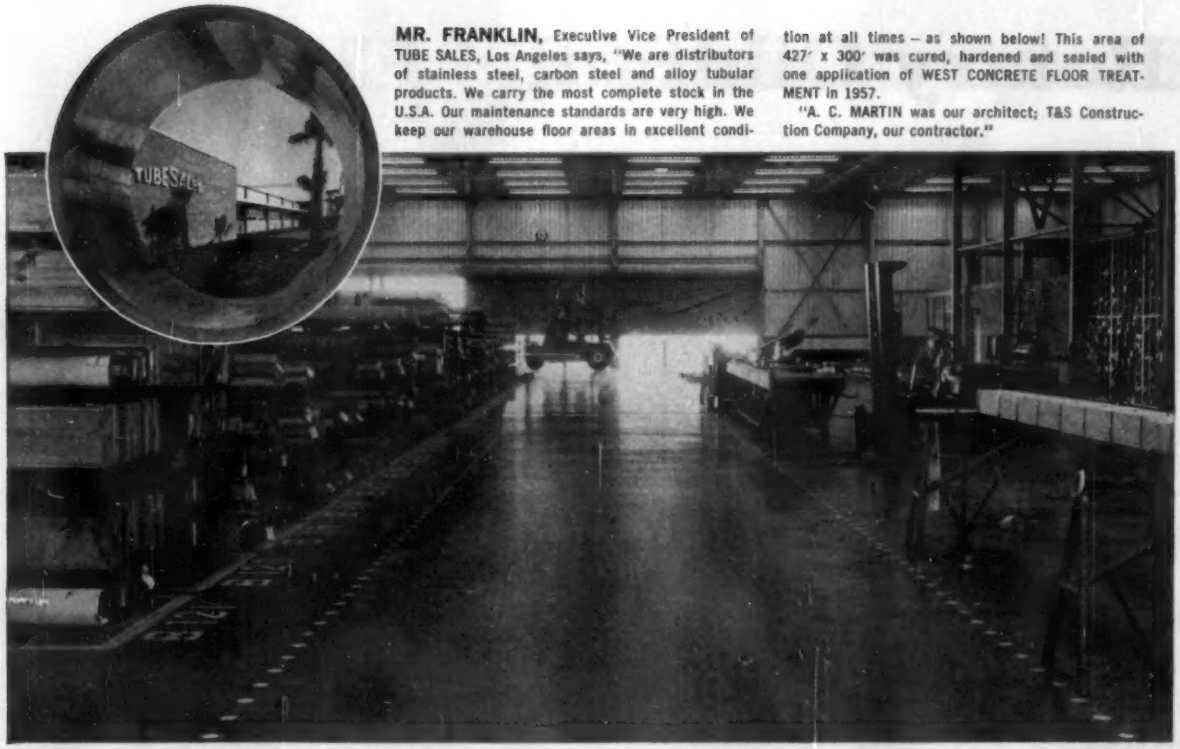

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Magnum photo

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March 1958 Vol. 123 No. 3

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Next Month in the Record

BUILDING TYPES STUDY: MOTOR HOTELS

This timely study will include articles by several architects, plus motor hotel designs by these and other architects including Richard Neutra and Victor Gruen.

LUXURIOUS NEW FACTORY BY EDWARD D. STONE

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A LOOK AT OUR HIGHWAYS BY LEWIS MUMFORD

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LIGHTING AS A DESIGN MATERIAL

An article by Derek Phillips, British architect and lighting authority.

A HOUSE IN TEXAS BY BOLTON AND BARNSTONE

ACCENT: ENGINEERING

Acoustics and Heating and Air Conditioning in Highway Hotels.

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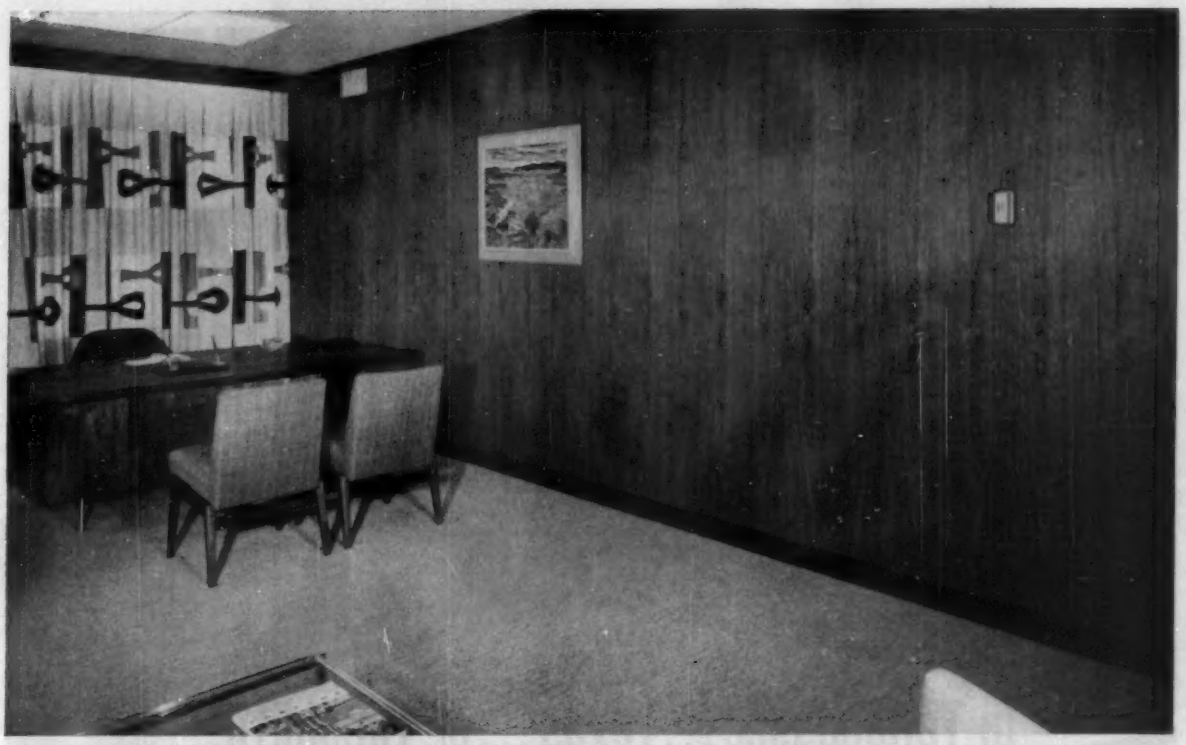

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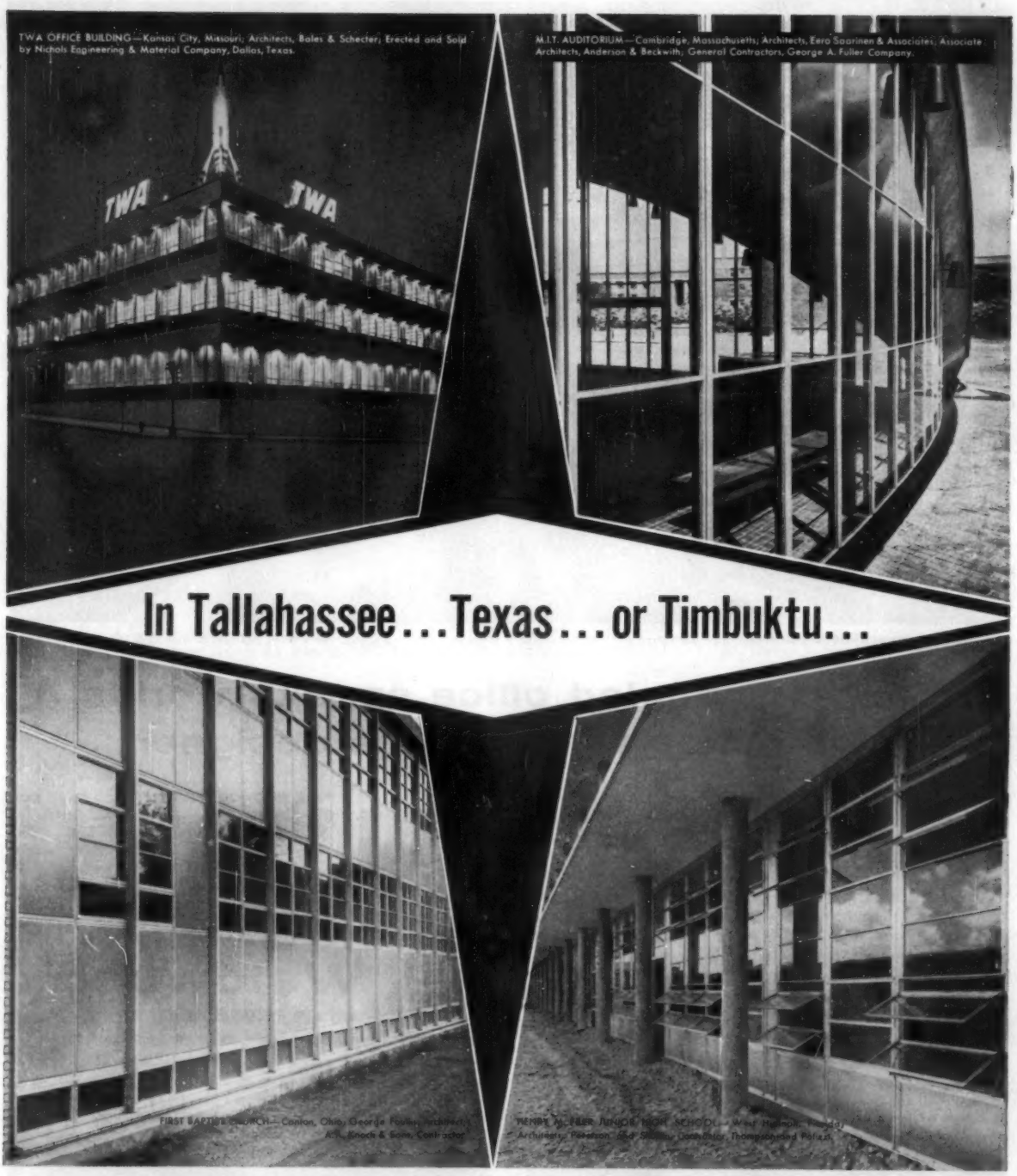
Weldwood birch movable partitions, installed with ½-inch clearance below luminous ceiling, follow the curve of this corridor in the new home office of Medusa Portland Cement Company, Cleveland, Ohio. Arch.: Ernest Payer.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More Talk of Building Research

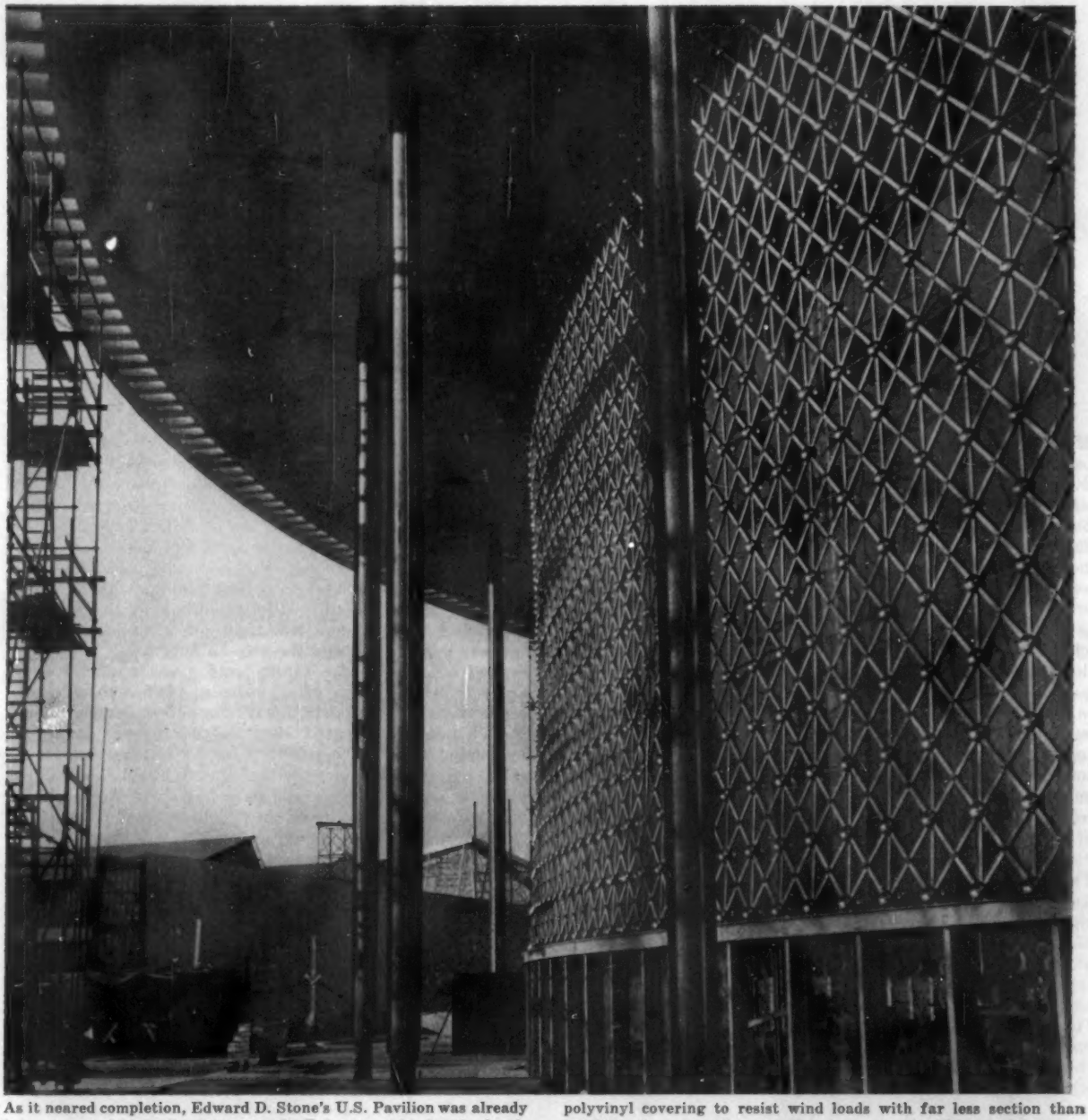
Last month's joint meeting of the Building Research Advisory Board and the Board of Governors of the Building Research Institute produced a 12-page news release (the meeting was not open to the press) comprised mainly of "the list of problems developed by the speakers as a challenge to everyone concerned with building design and construction," although the release also quotes BRAB chairman E. X. Tuttle as pointing out that this list of problems is a first effort of its kind, representing in its present form the personal views of the speakers: "Much more study will be necessary before a considered and comprehensive report of building industry problems can be developed and approved by BRAB." There was no indication in the release that there had been any discussion of how to approach the solution of the problems once defined. The list of "Problems of the Building Industry" is divided into sections: Problems for the Creators of Buildings (the architect, the air conditioning engineer, the building contractor, the plumbing contractor); Problems for Researchers on New Products; Problems in Housing Research; Problems in Urban Planning; Problems in Building Economics. The architect's problems are given as follows: "1. We need more study on why buildings leak, particularly in the fields of thin, lightweight walls, masonry walls and windows. 2. We need better means of overcoming acoustical difficulties, partitions and suspended ceilings that transmit less sound. 3. We need more roofing materials that can be used and walked upon, so that wasted roof space can be converted into green areas in the hearts of our cities, or used for recreation. 4. We need an ingredient added to concrete that will make it vaporproof, watertight and even self-sealing, like a puncture-proof tire. 5. We need better, more easily maintained finishes; finishes that are integral with structural materials, that can be sprayed on or otherwise easily applied. 6. We need more materials and assembles for our skin-type buildings that will *stretch* like skin, *breathe* like skin. 7. We need research into the causes and effects in buildings, for instance, as to how much infiltration through walls and windows may be due to negative pressures set up by mechanical exhaust systems or the stack-effect in tall structures, rather than the walls and windows themselves. 8. We need to know more about the economic life of our buildings and what we can do to lengthen their useful life or reduce the present imbalance between the life of the structure and the life of the equipment. 9. We must continue to search until we find the ways to put decent housing within the financial reach of all of our people. 10. We must know more about human reactions to such things as lighting, ventilation, air conditioning, noise, size and location of windows, color, texture and form. 11. We need better measures of what buildings *do* to people, so we can make schools, hospitals, office buildings, homes, greater sources of joy to those within them. 12. If we want curtain walls to remain in favor, we must find more ways to enlarge their possibilities of architectural expression and reduce their sameness."

Design for Moving

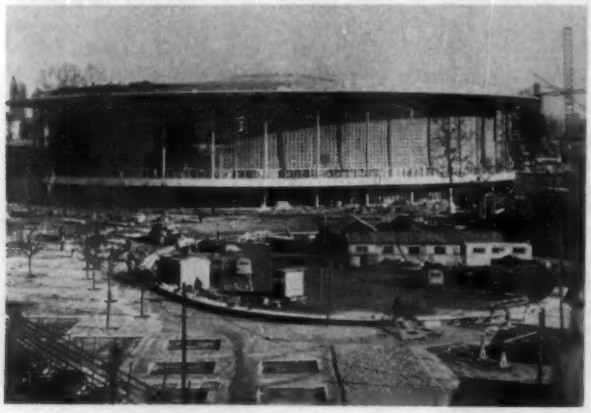
Buildings do have to be moved into and out of as well as occupied, and a recent letter to the RECORD contains a plea to architects to take this into account in their designs. John D. Andrews, president of the Andrews Moving and Storage Company, Cleveland, writes: "As a representative moving company, conducting substantial operations throughout this area and most of eastern United States, and moving in and out of houses, stores, office buildings and factories, we are alarmed to note that building design seems to be going backward rather than forward as far as the moving of materials and equipment in and out of such structures. During the last few years, in response to cost pressure, stairways, halls, turn-around areas, elevators, doorways and other building openings seem to be shrinking; while on the other hand freezer chests, appliances, safes and office machinery, particularly computers, and complicated electrical machinery, seem to be growing larger all the time. Our point is that the architects in designing buildings of all sorts are thinking only of the people who use them after the equipment is in and ready to go. They are not giving proper consideration to the people who have to get the equipment into the buildings; and in many instances we repeatedly move companies and departments in and out of the same office buildings. In some cases it has even been necessary to enlarge openings and rip out brand new brickwork or concrete block to get X-ray or electronic business machines into a new building. To our knowledge, the telephone company is one of the few firms protecting itself adequately against extra expense of this type. Please do not consider this a complaint, we are always able to get the things in some way, but in the instance of a building where adequate apertures were not originally constructed, it can cost thousands of dollars extra to move people in and out during the life of a building."

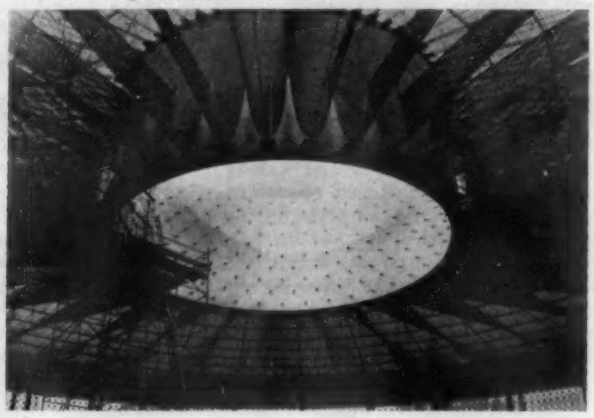
Immortality

Every now and then editors get some workaday evidence of a workaday sort of immortality their labors may attain—one came the other day, with a reader's request for a tear sheet of a one-page article on garages, published in February 1929.



As it neared completion, Edward D. Stone's U.S. Pavilion was already being reported by early visitors to the Fair site as by far the handsomest of the national pavilions. Walls are transparent polyvinyl plastic—eliminating need for heavy construction to support glass—and are supported by a system of steel strips which places verticals under diagonals so both are in tension; result allows wall with its polyvinyl covering to resist wind loads with far less section than would be the case with conventional construction. Bicycle wheel roof of polyvinyl plastic fiberglass spans 300 ft (inner ring shown below is 60 ft in diameter and 24 ft deep), has gold-painted steel mesh suspended below it. Wall strips are white steel with gold rosettes, columns also gold-colored

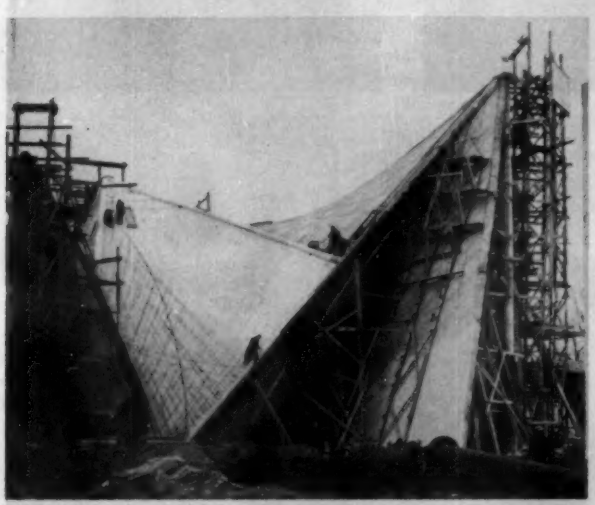


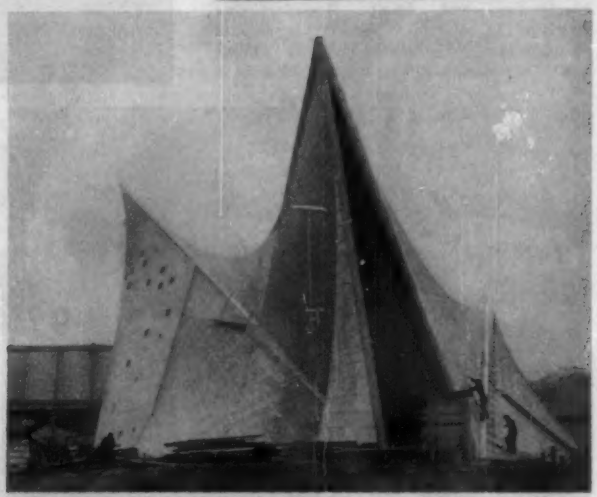


FIRST REPORT ON BUILDINGS AT BRUSSELS WORLD'S FAIR 1958

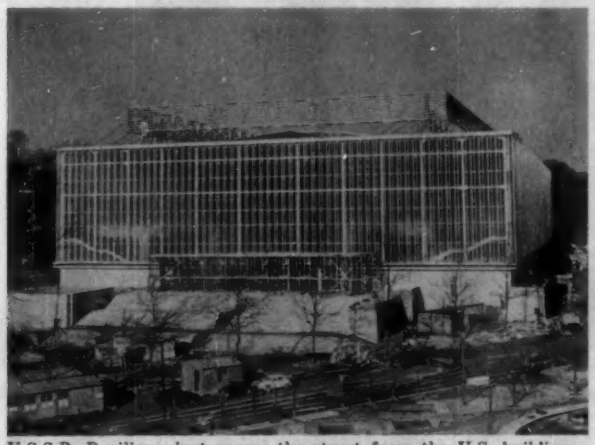
Earl Flansburgh Photos

Just north of the Laeken Palace of King Baudouin of Belgium in the Heysel section of Brussels is undoubtedly the greatest concentration of construction activity anywhere in the world. Here the contractors for 45 nations and eight supranational organizations are working long hours to finish their pavilions by April 17, the opening day of the Brussels 1958 Universal and International Exhibition. The site of the Exhibition is 490 acres composed of land used for the 1935 Brussels Exhibition and part of a former royal park. The symbol of the Exhibition is the "Atomium" (A. and J. Polak, architects, and A. Waterkeyn and A. Becker, engineers), a stylized iron crystal magnified 150 million times. Shown under construction in the photograph at right, it is 360 ft high and when completed will be composed of nine spheres 59 ft in diameter. An elevator will travel between the bottom and top spheres at the rate of 16 ft per second. The other spheres will be connected by escalators for ascending traffic and stairs for descending traffic. The spheres will hold displays of the peaceful use of atomic energy or be used for panoramic views of the Exhibition. The whole will weigh 2500 tons. —*Earl Flansburgh*





The photographs above show two stages of progress in construction of LeCorbusier's pavilion for the Philips Company, a Belgian manufacturer of electronics equipment. It is a system of two inclined surfaces which produces a volume of 141,600 cu ft from a surface area of only 5380 sq ft; there are no supplementary columns. Some 2000 concrete panels less than two in. thick form the surfaces; the panels vary in shape but each covers an area of about 10.76 sq ft; they are held together with steel wires less than three tenths of an inch thick. An intricate and elaborate series of demonstrations has been designed for the interior: the effort being to show "light and sound integrally combined." No details on the demonstration have so far been made available.

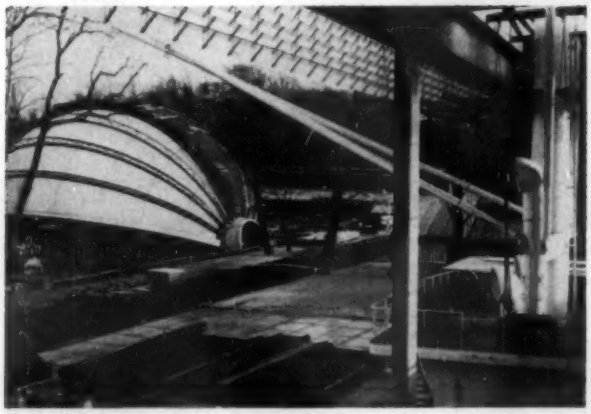


U.S.S.R. Pavilion—just across the street from the U.S. building—was assembled of elements prefabricated in the Soviet Union and shipped to the site: the design was much affected by the Soviet plan to reconstruct the building in the U.S.S.R. as a permanent exhibition hall after the Fair is over. Architects: Alexandre Boretski, Urii Abramov, Victor Doubov and Anatoli Polanski.

French Pavilion (Guillaume Gillet, architect) is composed of two hyperbolic paraboloids with surfaces forced by steel cable mesh; at the meeting point of these two forms a 200-ft-high mast will be constructed in the shape of an inverted V: supports, once intended to be confined to pilings under point of V, are also being put at two points at rear, a change forced by soil conditions.

BRUSSELS WORLD'S FAIR 1958

The Holy See Pavilion (P. Rome, chairman of the council of architects) has church (right) towering above wall-enclosed group of buildings symbolizing "Civitas Dei." Far right: 87-ft-high Electronics and Lamp Manufacturing Pavilion in Belgian Section represents vacuum tube; architects: Jacques Thiran and J. Wybauw



The Netherlands Pavilion, covering nearly six and a half acres, uses models of the nation's dikes and canals surmounted by a miniature lighthouse (symbolizing the nation's seafaring traditions) to illustrate the theme "Water: Friend and Foe." The pavilion is one of the five largest in the Foreign Section

The Pavilion of the United Nations and its specialized agencies (Van Kuyck, architect) occupies an area of about 2650 sq yd. Its domed roof, with an interior completely of glass, rests on concealed columns. Auxiliary buildings on two sides of the main pavilion are interconnected by covered ramps. UN Pavilion is in International Section

Great Britain has Government Pavilion (left: Howard V. Lobb and John Ratcliffe, architects) of which the entrance consists of three 70-ft-high crystal-shaped spires known as "Crystalline Hall," adjoining the "Hall of Technology," long low building faced with plywood pyramids; the British Industries Pavilion (right: Edward Mills, architect), a steel and glass structure with window walls 40 ft high. "Britannia Inn" adjoins

Czechoslovakia Pavilion, which has a site of nearly three acres, consists of three sparkling bronze glass mosaic buildings connected by two glazed display halls. The theme of the chief exhibit will be "A Day in Czechoslovakia," made up of three groups showing how people work, how they play and "of what their cultural life is made." A garden restaurant (at rear) will feature some of the national food specialties

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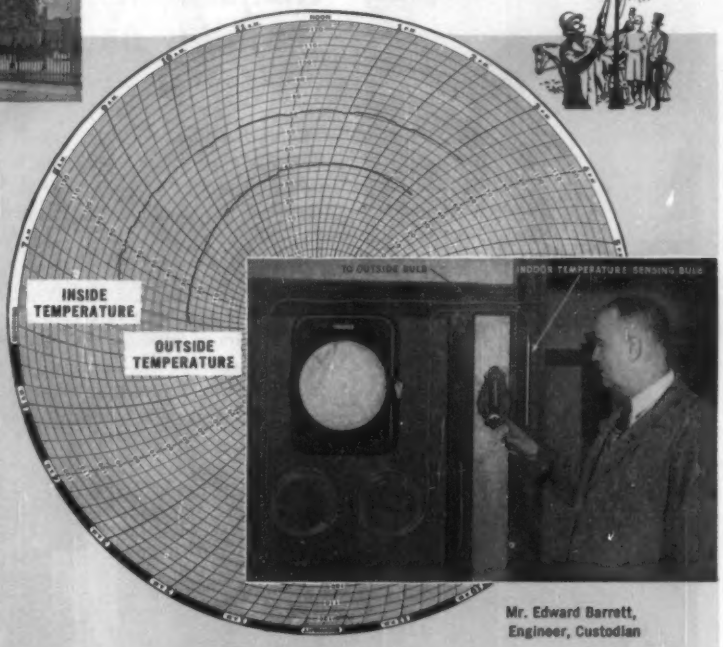
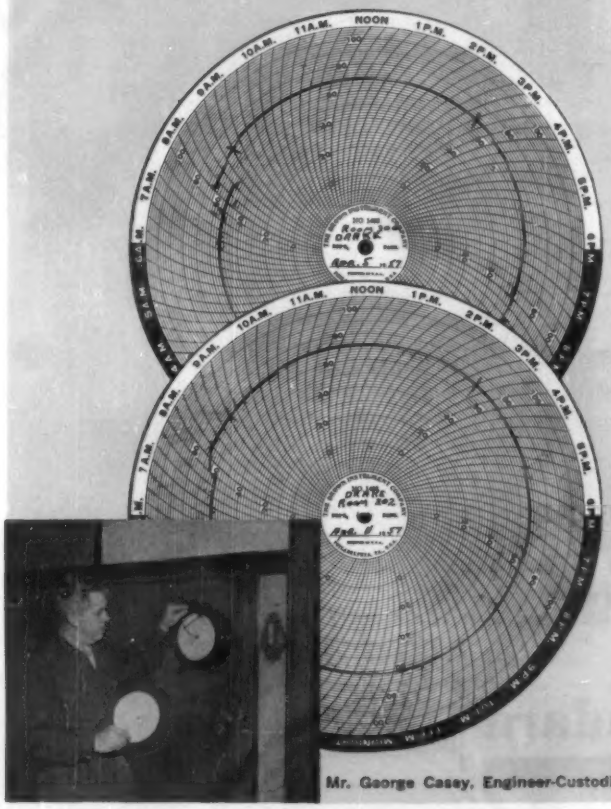


Mr. Edward Barrett, Engineer, Custodian



Mr. George Casey, Engineer-Custodian.

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News of Architecture Abroad

SOVIET ARCHITECTURE: DOES IT HAVE A "NEW LOOK"?

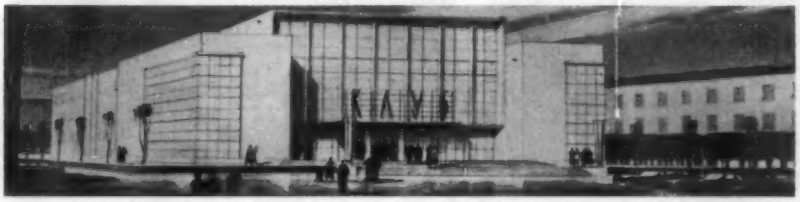
What Current Soviet Journals Show: A Report by Gerald Gruman

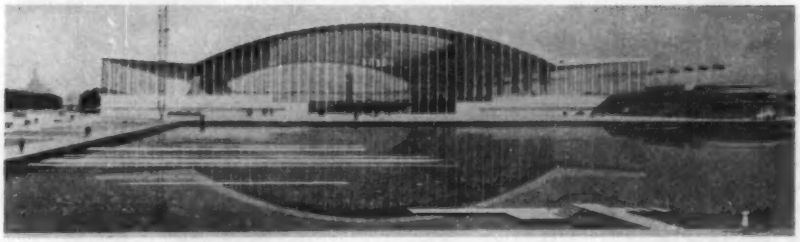
A "New Look" is beginning to revolutionize Soviet architecture. The latest architectural journals to reach this country from the U.S.S.R. show designs similar to those of Western functional architecture. This marks a sharp break with the heavy and ornate Stalinist building styles of the past two decades.

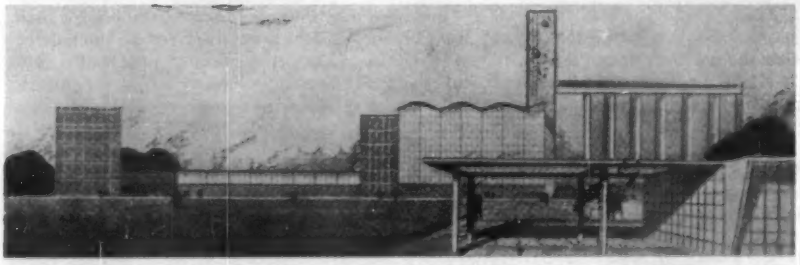
For several years students of Soviet affairs have noted a slow but persistent increase in the freedom and flexibility of Soviet design, but only in the past few months has Western-style modern architecture made an unequivocal appearance in Soviet blueprints. For example, a recent issue of *Arkhitektura CCCP*, an issue dedicated to younger architects, shows that functionalism wields a strong influence over the minds of the new generation of planners. Some of the structures depicted—a clubhouse, a research institute, a hotel, a factory—might have been created by

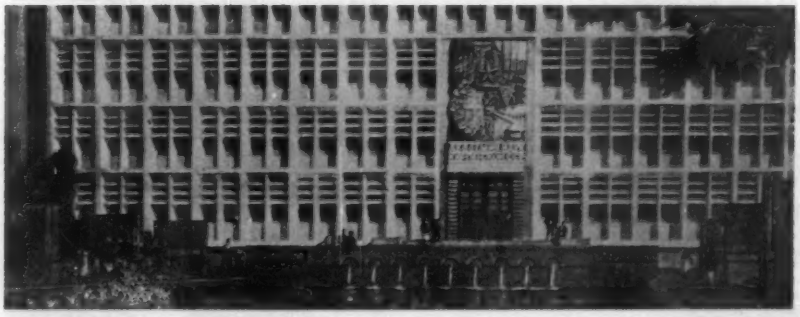
continued on page 322

Old style—Two examples at right. Top, Hotel Ukraine recently completed in Moscow. "The last of the Stalinist skyscrapers," Mr. Gruman observes, "this building is quite similar in design to the 'palace of culture' erected a few years ago in Warsaw which caused resentment among the Poles due to its outmoded design." Bottom right, a collective farm "house of culture" (i.e., club house) completed in 1954 as part of the national agricultural exhibition in Moscow

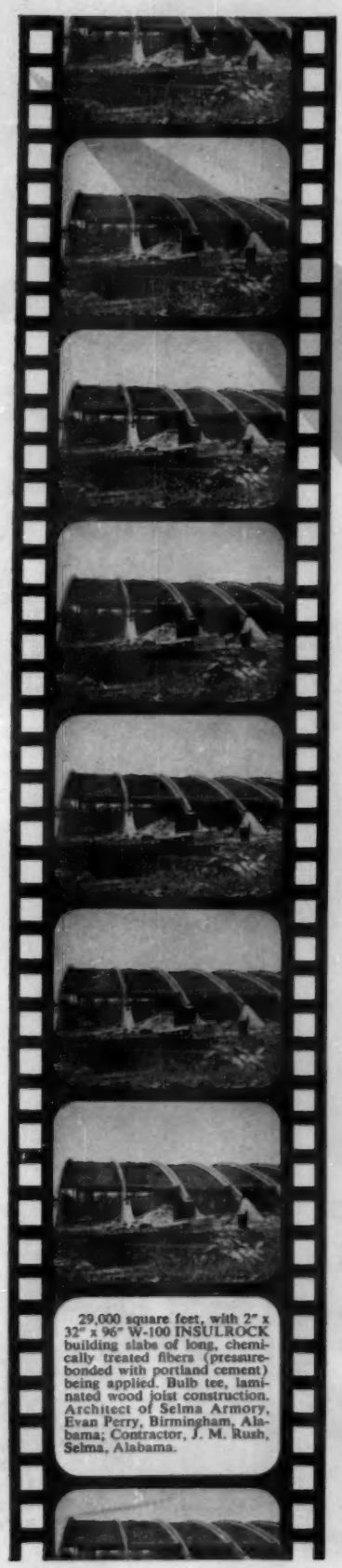








New style—(top to bottom) Club house, now under construction on Izmailsky Boulevard in Moscow; exhibition hall, to be the main pavilion of a planned permanent exhibition of construction and architecture; factory project designed by a fourth-year student at the Moscow Architectural Institute; façade of main building of Kirgizian Academy of Science to be erected in Frunze in Soviet Central Asia



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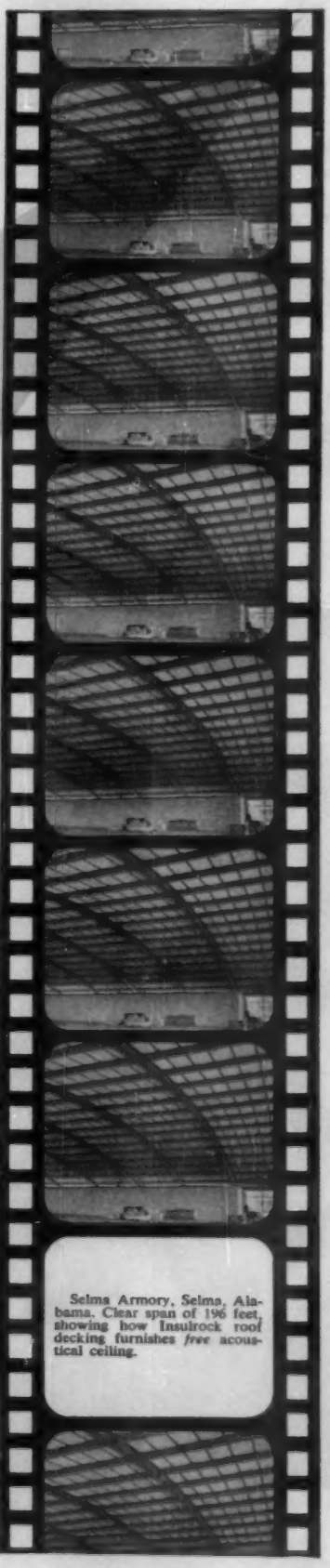
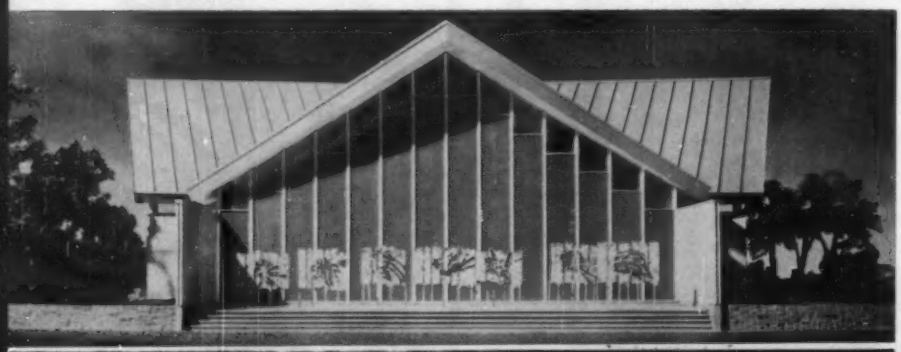


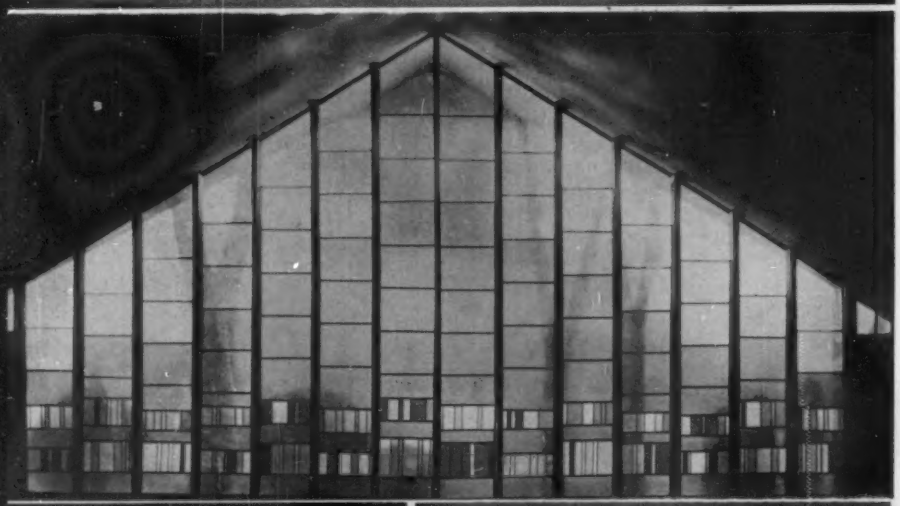
Selma Armory, Selma, Alabama. Clear span of 196 feet, showing how Insulrock roof decking furnishes *free* acoustical ceiling.

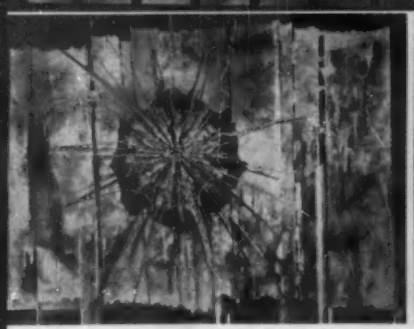
ART AND ARCHITECTURE EXHIBIT: "THE PATRON CHURCH"

A handsome and lavishly installed exhibit at New York's Museum of Contemporary Crafts (29 West 53rd St.) has this winter provided an impressive reminder that the church is —in the words of its catalog foreword—"again an important patron of architecture and art through the efforts of enlightened clergy, congregations and officials." Intended as "a survey of recent work in the liturgical arts," the exhibit included 14 recent examples of religious buildings in the U. S. chosen "not only for the excellence of their designs as a whole, but also for the reason that the decorative elements and objects of worship harmonize with the architecture down to the smallest detail." The display of "ceremonial objects and appointments" included actual objects from the featured churches as well as other commissioned and non-commissioned religious work. The architectural section of the exhibit is being incorporated in a forthcoming exhibition "God and Man" which is soon to be circulated by the American Federation of Arts.

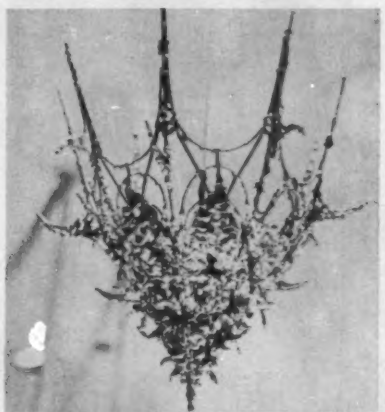
View of installation and two of churches shown: 1. Eero Saarinen's Stephens College Chapel; 2. Anshen & Allen's Chapel of the Holy Cross

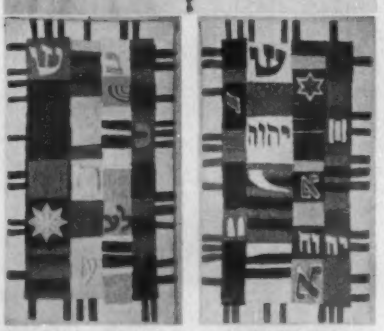




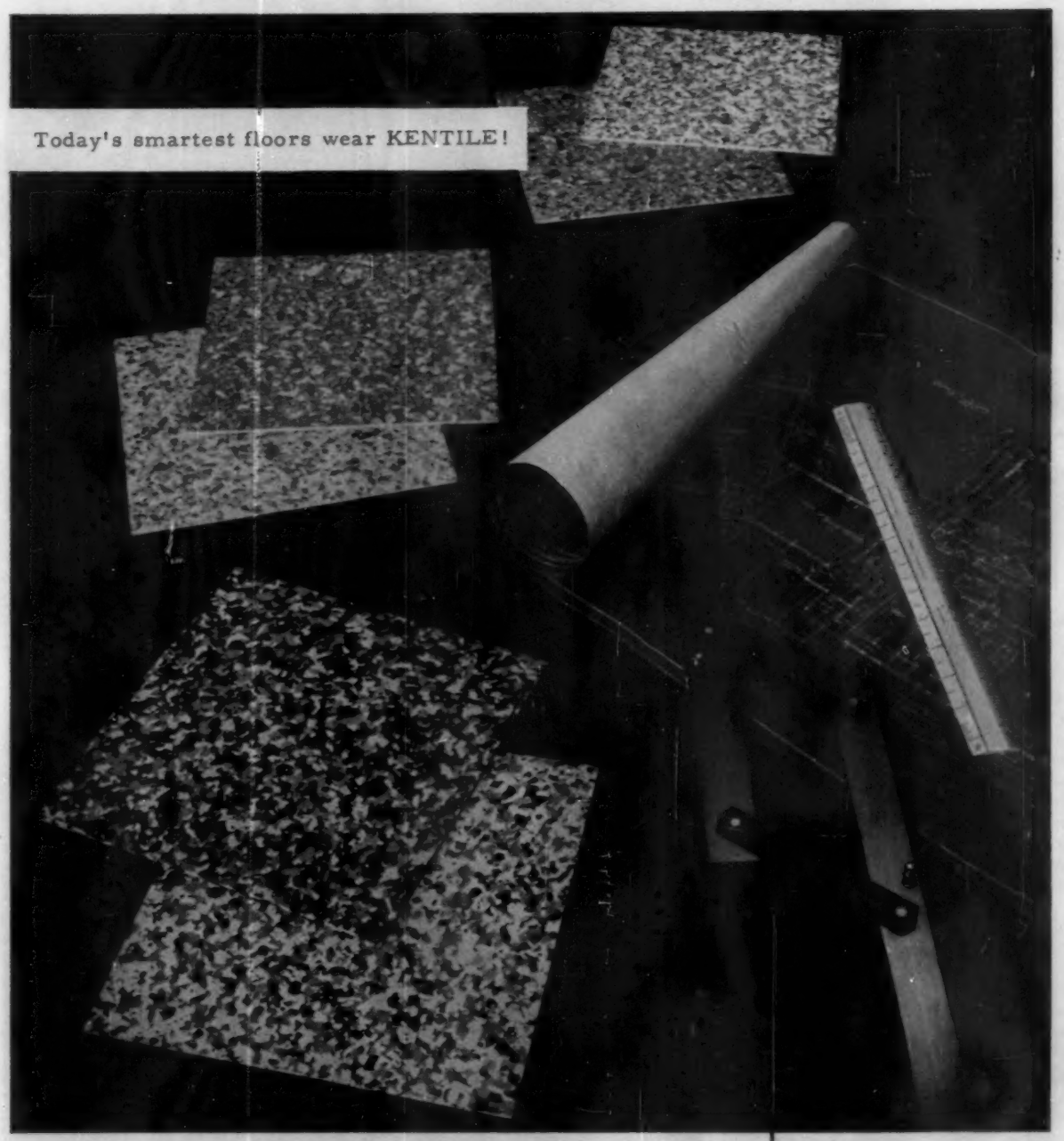


Congregation Beth El Synagogue, nearing completion in South Orange, N. J., Davis, Brody & Wisniewski, Architects, with its art objects provides an example of "The Patron Church." Stained glass by Samuel G. Wiener Jr. Sculptural screen by





Samuel G. Wiener Jr. and Judith Brown. Menorah and Eternal Light, Judith Brown. Tapestries, Samuel G. Wiener, Jr.



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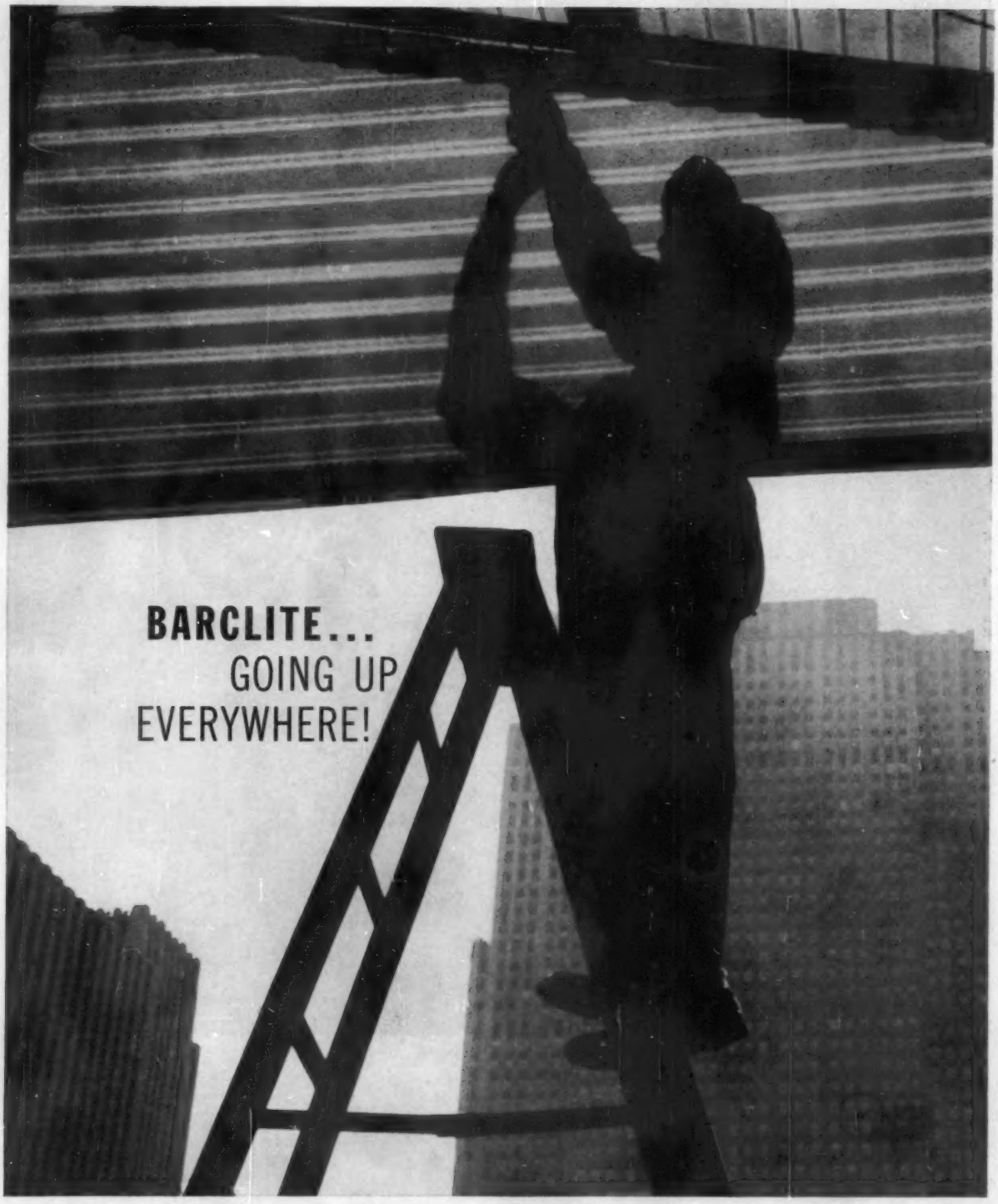

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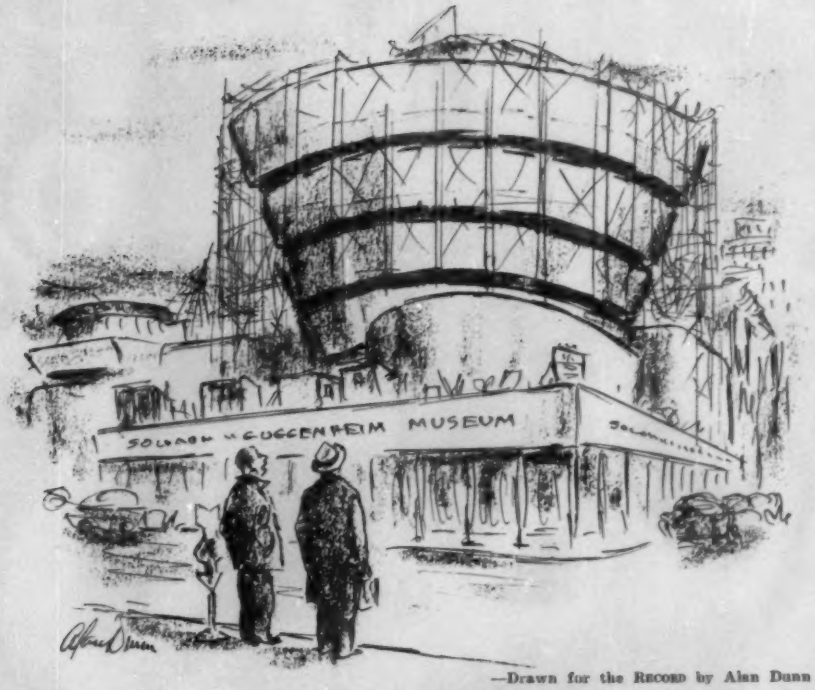
Meetings and Miscellany



—Drawn for the RECORD by Alan Dunn

"On the other hand, you might say it's just a twisteroo on the Old Pantheon idea—"

HOMEBUILDERS ARE TOLD 1958 WILL BE A BIGGER YEAR

In the past year the homebuilding industry has been plagued more than ever by tight money, shortage of community facilities, and rising costs, all of which has meant fewer homes built than in previous years. In recent months the homebuilders have also credited Sputnik with adding to their troubles in a negative thinking and even lack of confidence among the homebuying public. In this aura of gloom the 14th annual convention-exposition of the National Association of Home Builders was held in Chicago, January 20-23.

There was little doubt that the 28,000 delegates to the convention wanted to know what was expected for 1958. They overflowed a panel session on the economic outlook, but certainly didn't hear any of their fears confirmed.

The panel of four top economists all agreed that 1958, at least the latter half, would be a better year for homebuilders than 1957. They saw an easing of the mortgage money market later this year that, coupled with the ever-present demand for new housing and possible Federal incentive for home buyers, will result in at least one million new housing starts.

One of the panelists, Gordon W. McKinley, the director of economic and investment research for the Prudential Life Insurance Co., also touched on a problem of real significance to the industry. "You're doing a very effective job of pricing yourselves right out of the housing market," he declared. "The cost of housing is rising faster than incomes, and this just can't continue. If it does, there's going to be a lot of you out of business."

Builders' concern with this need for more low-cost housing was evident at the annual design panel session. During a question and answer period, many builders applauded one questioner who suggested that the cost of utilizing an architect is just a little too much for low-cost housing developments. Panel member S. Robert Anshen, San Francisco, denied this, pointing to homes he had designed in the Sacramento, Calif., area selling from $10,000 to $12,000. "It's duck soup," he said.

Another panelist, former N.A.H.B. President Thomas P. Coogan, Housing Securities, Inc., New York City, emphasized that architects are as important to the sale of a new home as modern packaging methods are to everyday commodities. Good home design, he said, is not the work of the architect or the builder, but the combined efforts of both.

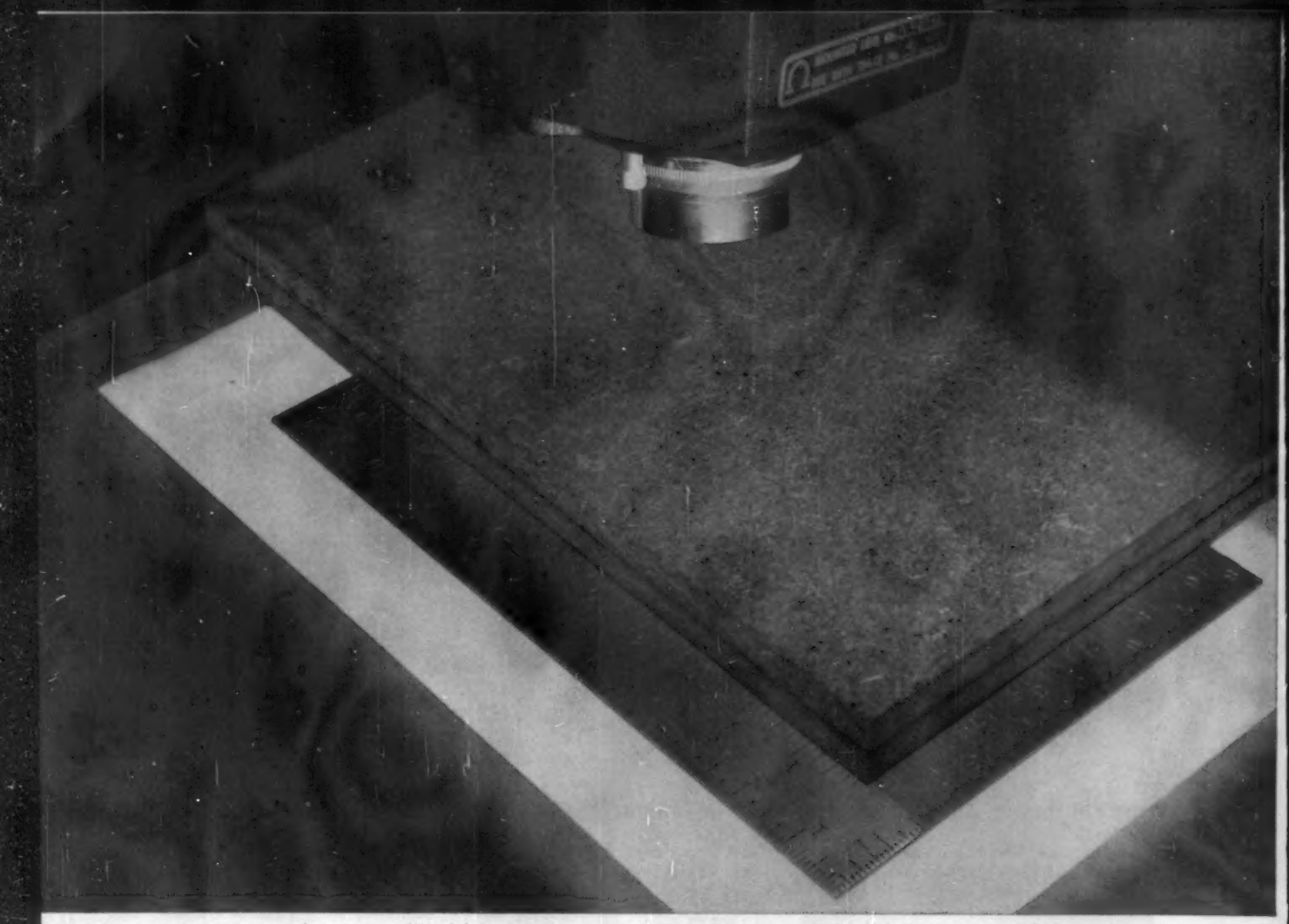
He suggested development homes be designed with wide appeal in the price bracket desired; be adaptable to variation; and not be too far ahead in design to miss the mass market.

The need for "curbstone appeal" in a housing development was discussed by Mr. Anshen and Robert E. Alexander, F.A.I.A., Los Angeles. Other panelists were Patrick Gannon, field editor for the *Journal of Homebuilding* (official publication of N.A.H.B.), and Herman York, Long Island, N. Y., who moderated the session.

There were two subjects discussed at an N.A.H.B. convention for the first time of considerable interest to architects: housing for the elderly and—perhaps as important as any subject on the program—the impact of the Federal aid highway program on housing and community development.

Housing for the elderly was seen by a panel of industry and Government officials as an "untapped market," with distinct advantages for both builders and lenders. The session also brought out some architectural matters. Elderly persons do not want an institutional type or specialized one-purpose home, said Robert Hastings, vice president of Smith, Hinchman & Grylls Associates, Detroit. Floors should be resilient, steps and thresholds eliminated where possible and adequate health facilities provided, such as nursing homes, hospitals, and social and recreation facilities.

E. Everett Ashley III, director of the statistical reports and develop-



Start of test. Carpenter's square butts corner of Temlok Roof Insulation placed on sensitized paper. Strong light from enlarger strikes paper from above.

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The illustration at the right shows what happened when the paper was removed and developed. There was not the slightest line between the carpenter's square and the corner of the insulation — the corners were perfectly square!

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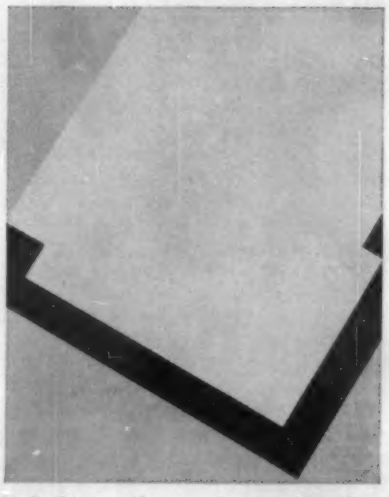

End of test. Absence of exposed line between carpenter's square and insulation panel proves corners of Temlok Roof Insulation accurately square-cut to provide firm, even base for built-up roofing.

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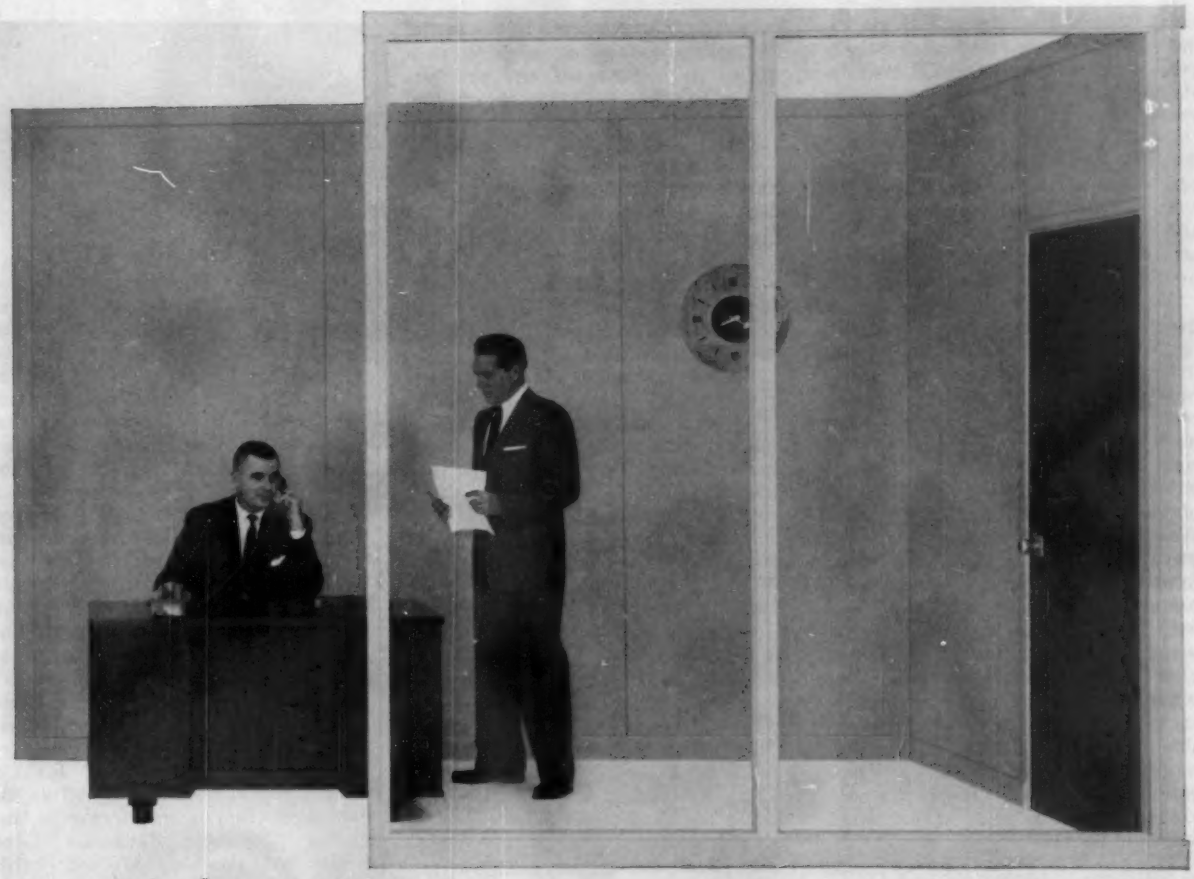

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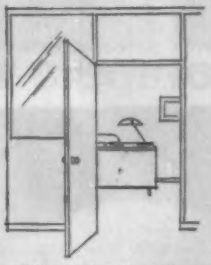

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ment branch, Housing and Home Finance Agency, declared that elderly persons are in need of small, well designed homes in the moderately priced class. "In general, you will find they are looking for a house on one floor, not more than two bedrooms and ample storage space. They want a home located not far from stores and other community services and in an area in which the residents are not all of their own age group."

The panel on the highway program's impact on community development warned that "utter chaos" will result if roads and homes are built without any over-all planning, recognized the natural indifference of builders to long range planning of communities, and revealed the tangle of authority that tends to make such planning almost a dream. Carl Feiss, Washington, D. C. planner, put it this way: "Only a small percentage of the industry is involved in large scale community design and building, and only a small percentage of it is conversant with the problems of community planning and development. This is the real reason why the community planners and public administrators along with the municipal financial interests and others are crying havoc before the completion of the new highway program with its attendant building booms."

The N.A.H.B. policy statement was one of the most strongly-worded in several years, hitting at the present "patchwork mortgage finance system," and chiding Federal monetary officials for using housing as a "mere economic safety valve." It called for lower down payments on FHA-insured loans as well as improved administrative procedures in its operations, extension of the GI home loan program, improvements in the rental housing and trade-in housing programs, a "continuous and uninterrupted" urban renewal program, and a concerted effort to lower housing costs.

Builder-banker Nels G. Severin, San Diego, Calif., was elected president; Carl T. Mitnick, Merchantville, N. J., first vice president; Martin L. Bartling, Knoxville, Tenn., second vice president; Edward W. Pratt, Royal Oak, Mich., treasurer; and E. J. Burke, Jr., San Antonio, Texas, secretary.

Despite optimism over the mortgage money market and economy in 1958, newly-elected president Severin made it clear that all of the builders' problems were not resolved. "The biggest problem facing builders this year is reluctance of the buying public toward long term mortgages," he said. "There's a feeling of insecurity on the part of the consumer, and something must be done by both the Government and business to restore this confidence."

In the 1958 Design Merit Award program, six awards were made:

"Lido-Sands," Newport Beach, Cal.; Irving Jordan and Nels Severin, builders; A. Quincy Jones & Frederick E. Emmons & Associates, architect.

"Murmuring Pines," Portland, Ore.; Hallberg Homes, builders; architect as above.

Project at Palm Springs, Cal.; George Alexander Co., builders; Palmer and Krisel, architects.

Project of Lone Star Builders of El Paso Inc.; Palmer and Krisel, architects.

"Potomac Outlook," Bennett Construction Co.—Mathews & Potter, Associated Builders; Keyes and Lethbridge, architects.

Project of Robert S. Strasburg, Circle Land Co., Yuma, Ariz., builder Robert G. Jones and Benjamin P. Urmston, architects. —*Dan Street*

Le Corbusier himself, and an ordinary spectator, outside the building which is the subject of some of John Burchard's best musing (pages 171-178)

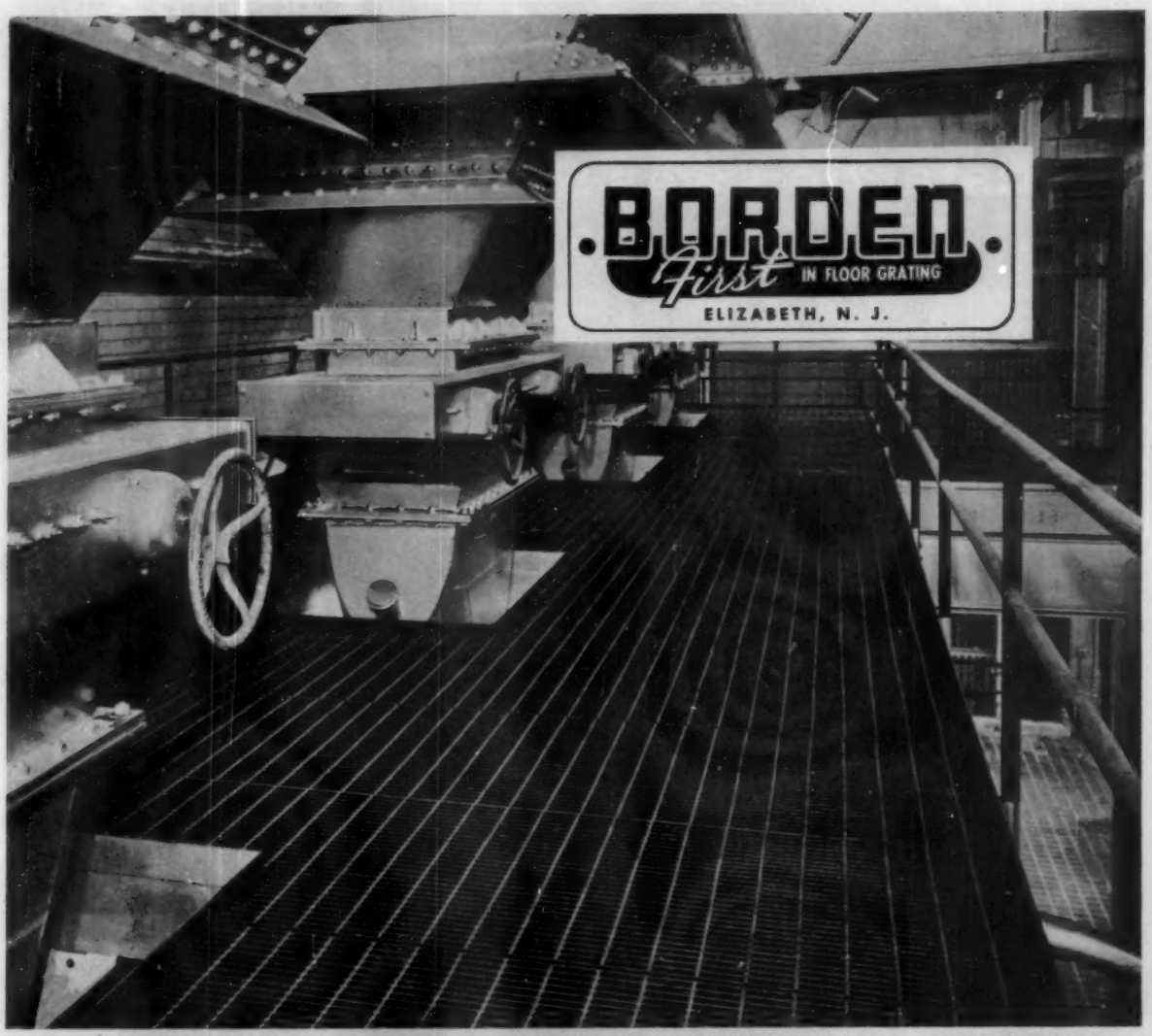
Wanted: LeBrun Fellow

The New York Chapter of the American Institute of Architects has announced the 1958 LeBrun Fellowship Prize Competition, open to architects from 23 through 30 years of age, for a prize of $3000 for travel outside the United States. The award is given biennially. This year's program will be the design of a memorial exhibition building and its environs in an open square in a city of approximately 100,000 population. The program may be obtained from: LeBrun Fellowship Committee, New York Chapter, A.I.A., 115 East 40th Street, New York 16, New York. The competition closes April 1.

Learning to Sell Architects

Thirty-seven building products salesmen from 30 firms attended the first Architectural Sales Representatives Institute of a series to be sponsored by the Producers' Council "to improve the effectiveness of architectural selling." The first five-day session was held at Rensselaer Polytechnic Institute, Troy, N. Y., January 20-24, under the supervision of Dean Harold D. Hauf and Professor Harry E. Rodman of the School of Architecture. The "curriculum" included lectures, intended to provide basic background on architects, their working procedures and their information requirements, and discussion groups in which the "students" could get answers to specific questions and practice their new knowledge on each other and their instructors. Faculty members of R.P.I.'s School of Architecture served as instructors, and guest lecturers included architects Benjamin Lane Smith, of Voorhees Walker Smith and Smith; Morris Ketchum of Ketchum and Sharp; and Walter A. Taylor, A.I.A. director of education and research. The next Institute is scheduled for the week of May 19 at Ohio State University.

One of the visiting lecturers, Morris Ketchum. Below: "graduation" snapshot. Top of column: morning walk to class across R.P.I.'s snowy campus



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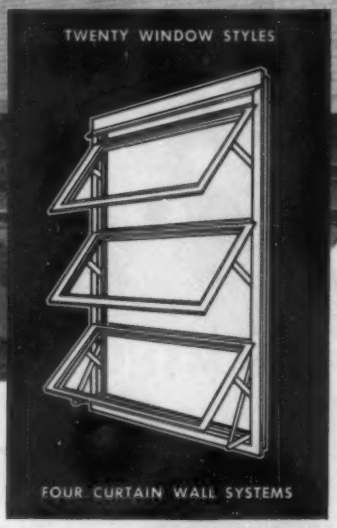

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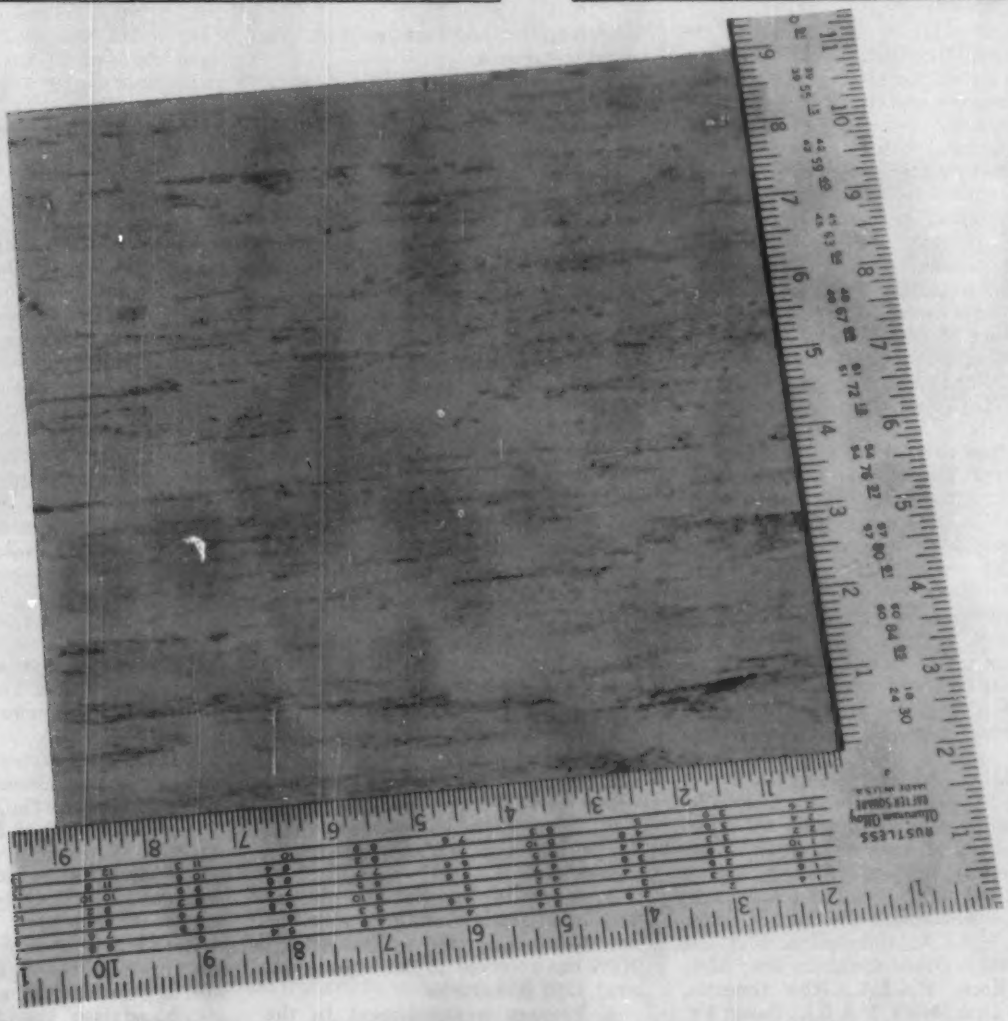

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REVIVED SURVEY PROJECT RESUMES RECORDING OF AMERICAN ARCHITECTURAL HISTORY

Through the combined efforts of the National Park Service, the American Institute of Architects, the Library of Congress and other groups interested in the recording of American architectural history a growing mass of photographs, line drawings and data sheets is being collected in Washington.

The project, revived by the Congress last year after a 16-year lapse, is known as the Historic American Buildings Survey and is under the guidance of the National Park Service, an agency of the Interior Department. The A.I.A. works jointly with the NPS, supplying information from its own inventory of historic buildings carried on through its local chapters. The Library of Congress is the repository for the finished products. The program is described as a national plan for making and preserving records of existing monuments of the builders' art in the United States and its possessions. Its first aim, according to the NPS, is to conserve the national cultural resources in historic architecture. Another objective is to serve the public by preserving and making available exact records of this cultural background of American history.

An Advisory Committee headed by James Grote Van Derpool, A.I.A., of the School of Architecture, Columbia University, advises NPS on the project. Paul A. Thiry, F.A.I.A.,Seattle, is vice chairman and Samuel Lapham, F.A.I.A., Charleston, S. C., is secretary. Other members are: Richard Koch, F.A.I.A., New Orleans; John Gaw Meem, F.A.I.A., Santa Fe; Earl H. Reed, F.A.I.A., Chicago (chairman of the A.I.A.'s Committee on the Preservation of Historic Buildings); Bertram K. Little, Boston; Carl Bridenbaugh, Berkeley; Harold D. Eberlein, Philadelphia; and (*ex officio*) Dr. Richard H. Howland, president of the National Trust for Historic Preservation, and Dr. L. Quincy Mumford, Librarian of Congress.

The effort first was launched back in the 1930's when make-work projects for the unemployed enabled officials to accumulate a sizable amount of material—measured drawings, photographs, historical and architectural data. From then until now the year 1860 has been the determining factor; no building built after that time would be considered for inclusion in the inventory. It has been proposed that this date be moved up to 1900, or possibly later, but no definite determination had been made on this point last month.

The program has operated on a budget of $116,000 during the current fiscal year, 1958, and the same amount is being asked for fiscal 1959 beginning next July 1. At this level, NPS has been able to finish many of the projects covered in field data assembled during the 1930's. Although disappointed that the figure could not be increased for next year, the Service is moving ahead with plans for applying new techniques in handling the material it already has and in adding to the inventory as far as funds will allow.

It is estimated that since the inception of the program, the following have been placed in the collection: 25,600 sheets of measured drawings, 29,200 photographs, and 7600 buildings have been recorded in some form, but only 2800 have been measured and drawn. The drawings and photographs record structures in 44 states, the District of Columbia and Puerto Rico.

Here is the schedule of work during the current fiscal period:

1. Photograph 500 historic buildings.

2. Complete surveys and recorded drawings of 30 buildings.

3. Complete the recorded drawings for 20 buildings which are partially complete.

4. Assist in the National Inventory of Historic Buildings which is now being conducted by the A.I.A.; NPS has received to date (in January) 1205 inventories.

5. Prepare a supplement to the Catalog of the Measured Drawings and Photographs of the Historic American Buildings Survey in the Library of Congress of subjects received by the Library subsequent to the closing date of March 1, 1941.

Since 1941, the program had been dormant until it was revived last year. Congress has been informed that during fiscal 1959 it is planned to continue to the extent possible with checking, reviewing, and final recording of the remainder of the 90 buildings for which partially complete sets of drawings are on hand, and to complete as much as possible the drawings from the 150 measuring books now available.

The NPS staff has been built up gradually with revival of the program and has just about reached its peak now. Some difficulty has been experienced in getting personnel for the drawing required, Park officials said. They noted that drafting principles have changed in the 20 and more years since the program first started. They are attempting to hold to the same pattern of assembling and preserving materials, but find it hard to do so. The earlier drawings were done on bond paper in India ink for permanence.

Methods of making prints from pencil drawings are now being studied and photogrammetry is being given very serious consideration.

Perry E. Borchers, associate professor in the School of Architecture and Landscape Architecture at Ohio State University and a practicing architect in Columbus, is under contract with NPS to apply the photogrammetry principle to the exterior of a few buildings. Accurate drawings can easily be made from photos of this type, it is said.

The prime concern, of course, is to do the work first on those structures which might be in danger of removal for any purpose or deterioration to a point where measurement would become more difficult. This is an important factor when priorities are established.

A.I.A.'s contribution comes largely through its Committee on the Preservation of Historic Buildings, presently headed by Earl H. Reed, F.A.I.A., Chicago. Each local chapter has a preservation officer and is urged to seek out buildings worthy of recording for the inventory.

Reed serves as a member of an advisory committee to the HABS and also is a member of a similar group which advises the National Park Service on all its programs.

All types of structures are included —public buildings, residences, covered bridges, aquaducts, churches, shot towers, mills, shops, etc. In various periods and styles these cover the period from the early 17th century to Civil War time.

Within its limited budget the Park Service employs teams of sophomore and junior college students to do field work during summer vacation periods. A faculty member supervises the work of each team. Four such groups will be in this field this coming summer, working in New England and at Harper's Ferry. The students take measurements, make photographs and drawings and look up material on the structures, reporting their results to NPS.

A catalog of the HABS work started in 1941 will be continued.

—Ernest Mickel

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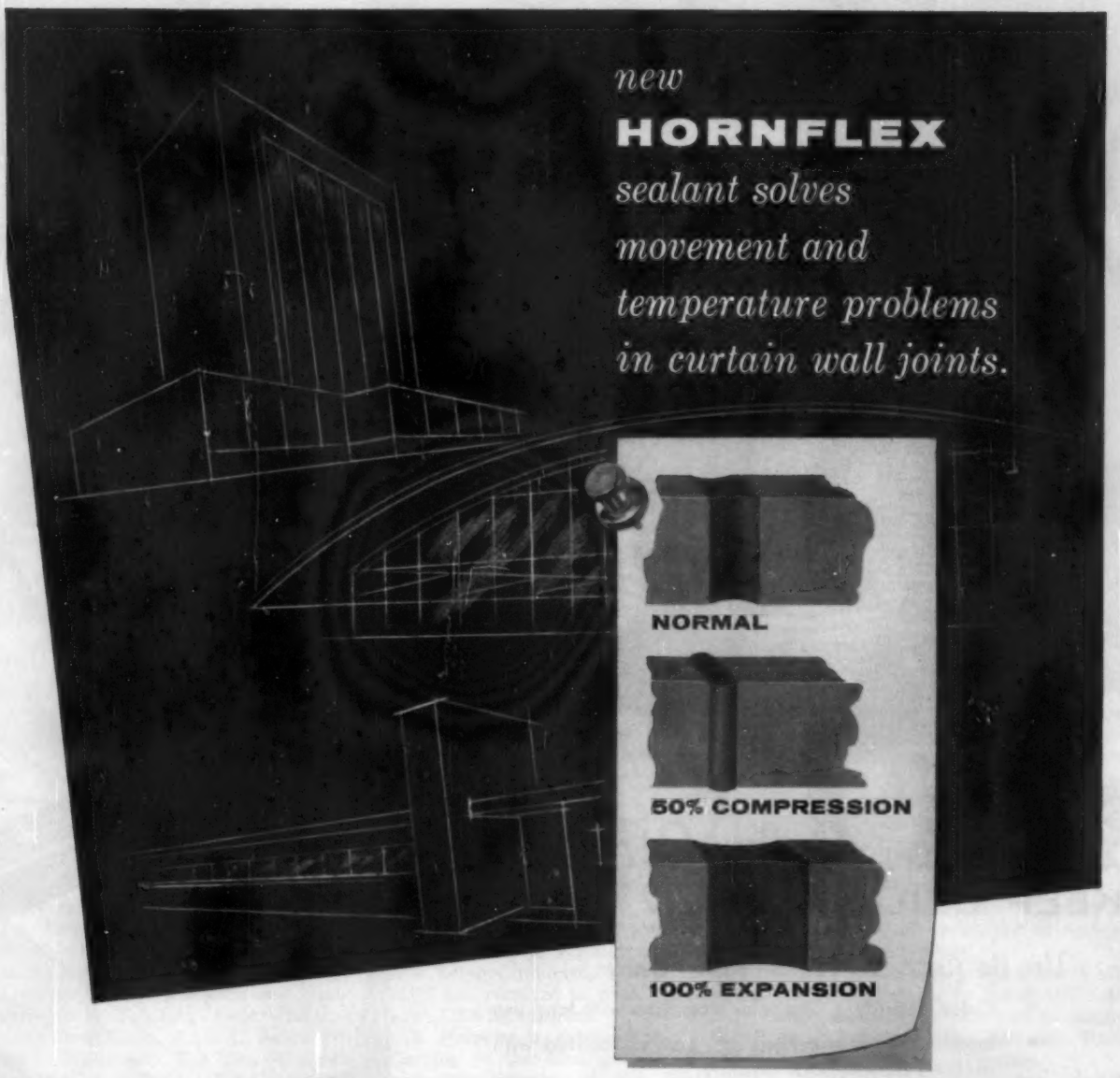

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A Washington Report by Ernest Mickel

JETS AND AIRPORT DESIGN: AIRLINE OFFICIALS REPORT ON STUDIES OF NEW REQUIREMENTS

A recent symposium on turbine aircraft conducted by the aviation subcommittee of the Senate Interstate Commerce Committee opened the door a little wider to some of the challenges that will be confronting architects designing in the jet age.

Terminal facilities for the turbine transports were discussed by Marvin Whitlock, vice president for operations planning, American Airlines. The problem: based on a conclusion that full realization of the airplane's speed, passenger appeal and economic opportunities required facilities which would promote minimum ground time, maximum passenger protection and maximum efficiency in ground servicing operations, researchers undertook to determine what arrangement would provide the most for the money.

The differences introduced by jet airliners necessarily call for a quite different approach in planning airport facilities.

Some Key Considerations

Passenger loading arrangements, servicing, fuel and water storage are but a few of the new considerations entering into the design of terminals for these fast and heavy aircraft.

None of the equipment currently used for gasoline can be economically adapted, for example. New electrical systems will have to be provided because of the added requirements for turbine aircraft. (The Boeing 707 jet uses more than 100 times as much electrical energy as the DC-3 airplane.) Where the power is "piped" to the ramp, rather than being furnished by mobile equipment, a substantial increase in amount of power brought to the field by the local power company will be needed.

Mr. Whitlock explained that the J-57 powered airplanes would use some 750 gal of demineralized water in each takeoff. Purpose is to increase the mass flow through the engine, thereby restoring some of the thrust loss. This quantity is about equal to the amount of fuel normally put aboard a DC-3.

The water will be required for any takeoff when outside air is above 20 degrees F, Mr. Whitlock continued, and will all be consumed on takeoff. The water must be demineralized to avoid the mineral present in tap water from depositing on the turbine blades. Equipment will be needed for demineralizing local water; storage must be in stainless steel, plastic or glass-lined tanks and pipes. Again, none of today's equipment can be adapted.

Terminal noise from the jets will present its own peculiar problem for the architects designing airport facilities. This high frequency compressor noise forward of the engine is exclusive to jets. It is highly directional, of high intensity, and not easily absorbed but is easily deflected and attenuates rapidly in air. The sound is not harmful during short or intermittent exposure but is irritating and some people would consider it painful.

With that explanation, Mr. Whitlock gave Congress the following picture of construction requirements:

"Minimum structure will deflect the sound but the structure must be airtight. The sound will penetrate through the smallest cracks and once inside the structure, it will reverberate readily. Since structure is required to be airtight, it must be mechanically ventilated and/or air conditioned.

"All passengers and all possible ramp personnel must be enclosed in such structure during engine operation at a given gate position and blast fences will be required to protect the adjacent gate positions. The personnel required on the ramp during engine operation must be protected by ear muffs or better."

New Factor: Exhaust Velocity

Exhaust velocity is another new problem that must be reckoned with in the terminal area. The blast from a turbo-jet is greater and more directional than from a propeller airplane. If the future planes are taxied to loading positions in conventional manner, blast fences separating the gate positions will be required and a new standard of ramp cleanliness as to particles, water and snow will be necessary. Ramp areas, taxi and takeoff surfaces must be kept free of foreign objects by sweeping or vacuuming, the American Airlines expert stated.

The new craft (orders now have been placed by private operators for more than $2 billion worth) will seat from 76 to about 150 passengers each. The airline executive noted that this size trend has the same effect on terminal requirements as simultaneous departures. This means more space at the ticket counters, in the concourse, in the lobby and throughout the terminal. A single departure of a 150-passenger airplane would just about equal four simultaneous CV-240 departures from a single gate position. "For these reasons," said Mr. Whitlock, "we are reviewing all the areas involved and specifically planning the construction of a departure room at each gate position to permit predeparture ticket collection."

All this means, too, that more baggage will have to be handled in equal or less lapsed time.

A separate study explored terminal arrangements with an eye to the best investment toward improved efficiency and passenger environment.

"We quickly realized an inherent physical advantage," Mr. Whitlock explained. "All of the things we have to do to the airplane are at ground level with the exception of cabin service for which special entry doors are provided. At the same time, the only level of interest to the passenger is on the cabin floor level. It is therefore obvious that if we can keep these two interests separated physically, we both gain. Hence, second level concourses and loading become our first objective."

Spotting the airplane accurately at the loading position will mean a better job can be done with built-in facilities—fuel, water and electricity—thus eliminating mobile units. So, American has concluded that a taxi straight-in, second level loading, push out with tractor and turn, unhook and taxi away represents the most for the money.

More engineering than architectural were W. E. Rhoades' discussions of airport and noise considerations in turbine transport operations. He is manager, flight engineering, United Air Lines.

Mr. Rhoades told the Senators that generally speaking, the major airports of the nation, while not entirely adequate, are of such basic configuration that they can be made suitable if sufficient time and money is available. He described a United Air Lines study, requiring some 18 months, which resulted in a document recommending detailed dimensions of minimum requirements at each affected airport.

Runway Problems

Runway construction for optimum operating conditions in some instances could approximate a cost of perhaps $100 per ft, he said. But this cost certainly could not be afforded when the total runway length might be needed only once or twice in a year. So, the firm evolved a mathematical method of combining the variability

continued on page 310

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Pictured above: North Penn Senior High School, Lansdale, Penna. • *Architects:* Howell Louis Shay & Associates • *Contractor:* Wark & Co.

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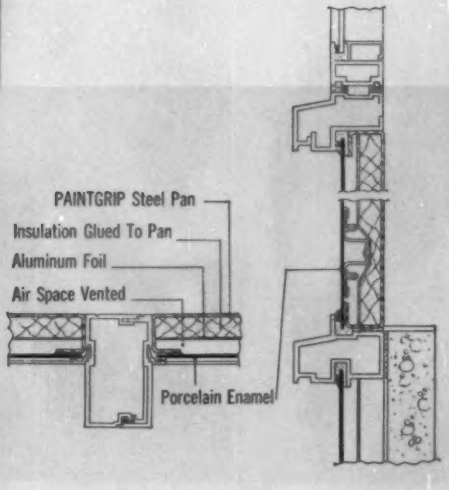

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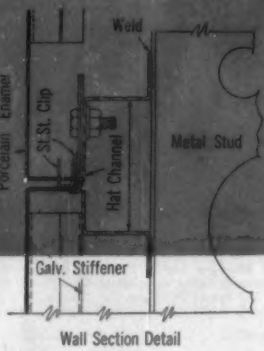
ARCHITECTS—**Stone, Mulloy, Marraccini & Patterson**
CONTRACTOR—**Swinerton & Walberg Company**

Floor-to-floor, modular porcelain enamel curtain wall units were entirely prefabricated, permitting quick erection from inside the building.
CURTAIN WALLS—**Kawneer Company, Berkeley, California**
PORCELAIN ENAMEL—**Ferro Enameling Company, Oakland, California**



Wall Section Detail

Colorful porcelain enamel wall panels extend the handsome appearance of the structure to its service core and abutting end wall.
PORCELAIN ENAMEL WALL PANELS AND SUPPORTING STRUCTURAL GRID—**Architectural Porcelain Constructors, Oakland, California**

design with colorful Porcelain Enamel gives Oakland Bright New Landmark

More than 100,000 sq. ft. of porcelain enamel panels utilized to combine permanent beauty with the economy and efficiency of curtain wall construction.

Adding a bright column of color to the center of Oakland, the 18-story First Western Building dramatically shows how architectural beauty and efficiency are achieved with porcelain enamel.

The clean, simple lines of the structure's basic design complemented by its handsome color, have made the building a focal point of the California city's downtown section. And the time-defying durability of porcelain enamel on Armco Enameling Iron is assurance that First Western will retain its handsome appearance.

Beauty Plus Economy

Besides freedom to design with durable color, porcelain enamel curtain walls enabled the architects to give their client many money-saving advantages.

Lightweight, factory-assembled curtain wall units not only permitted lighter structurals but also cut construction time to give First Western's owners revenue-producing early occupancy.

Compared with conventional masonry construction, the thin porcelain enamel walls provide about 6000 sq. ft. of *additional* rentable area that will provide extra income for the life of the building. And the exceptional freedom from maintenance of time-tested porcelain enamel assures lasting economy.

Adaptable to Your Designs

Curtain walls of porcelain enamel on Armco Enameling Iron offer all the advantages of manufactured building units, plus unique freedom of architectural expression. You can design with any color of the spectrum; incorporate form and texture into your facade treatment with custom or standard panels.

For *your* curtain wall buildings, specify porcelain enamel on Armco Enameling Iron. Because of its uniformity and purity, it is used more than any other metal as a base for architectural porcelain enamel.

For more information and a copy of the booklet, "Architectural Design with Porcelain Enamel" write to Armco Steel Corporation, 1478 Curtis Street, Middletown, Ohio.

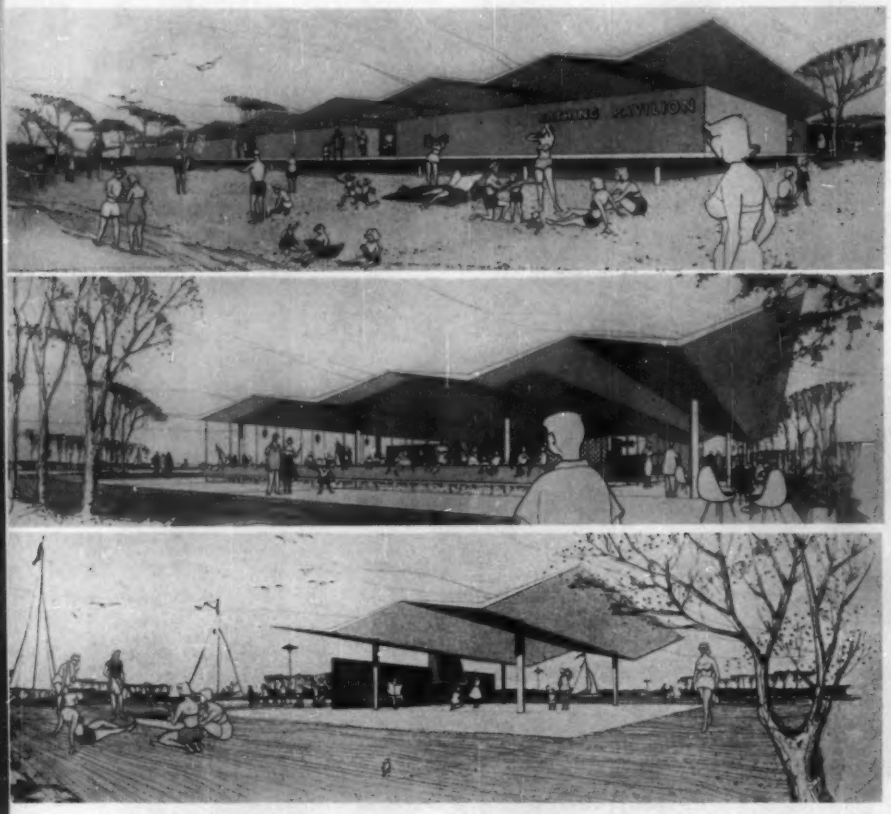
ARMCO STEELS FOR ARCHITECTURE

ENAMELING IRON • STAINLESS • ZINCGRIP® PAINTGRIP® • ALUMINIZED STEEL

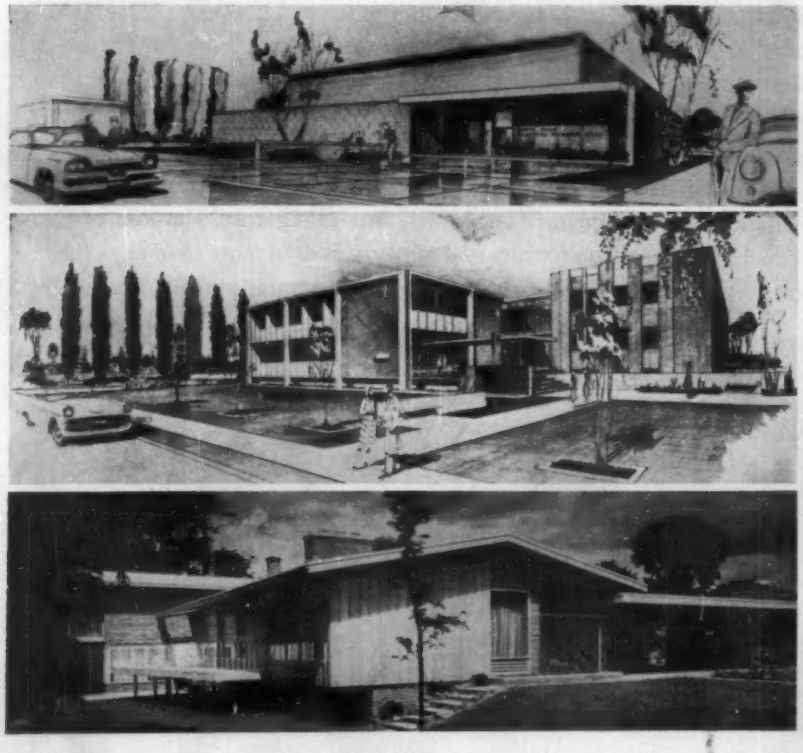
ARMCO®

News from Canada by John Caulfield Smith

PROTOTYPE SHELTERS DESIGNED FOR RECREATION CENTER PROJECT



Five basic types of shelters (three of them shown at left) have been designed by architects Venchiarutti & Venchiarutti as part of the Metropolitan Toronto Parks Commission's extensive redevelopment program to make the Toronto Islands a recreation center. The types: 1200 sq ft open shelter with fireplace (bottom left); 1800 sq ft shelter with food concession and washrooms; 8000 sq ft bathing changing station with washrooms (top left); 4000 sq ft restaurant with washrooms (center left); 9800 sq ft dockside shelter with food concession and washrooms. The Parks Commission felt the buildings should be gay in appearance, constructed of durable materials to withstand rough use and require a minimum of maintenance. The shelters will have structural framework and roof of reinforced concrete, a rigid frame of Y bents; the enclosing walls will be glazed brick in the three primary colors.



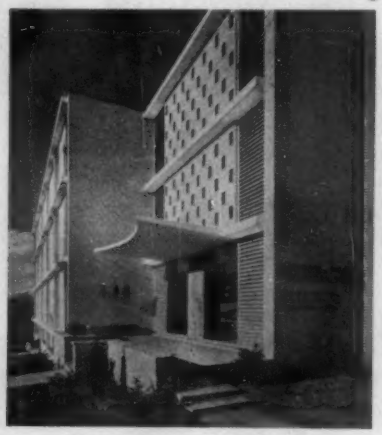
1

2

4

Other recent projects of the firm: 1. North York Memorial Swimming Pool, a building designed to facilitate the teaching of swimming, with two pools (one therapeutic) and a spectators' gallery seating 250; structure is load-bearing masonry and patented deck on longspan steel joists. 2. Addition (left in perspective) to York Township Hydro System, joined to existing building by glass link, will be of flat plate reinforced concrete construction, with curtain walls of heat absorbing glass. 3. A recently opened office building in Toronto. 4. Residence for Sam Sorbara, Toronto.

3

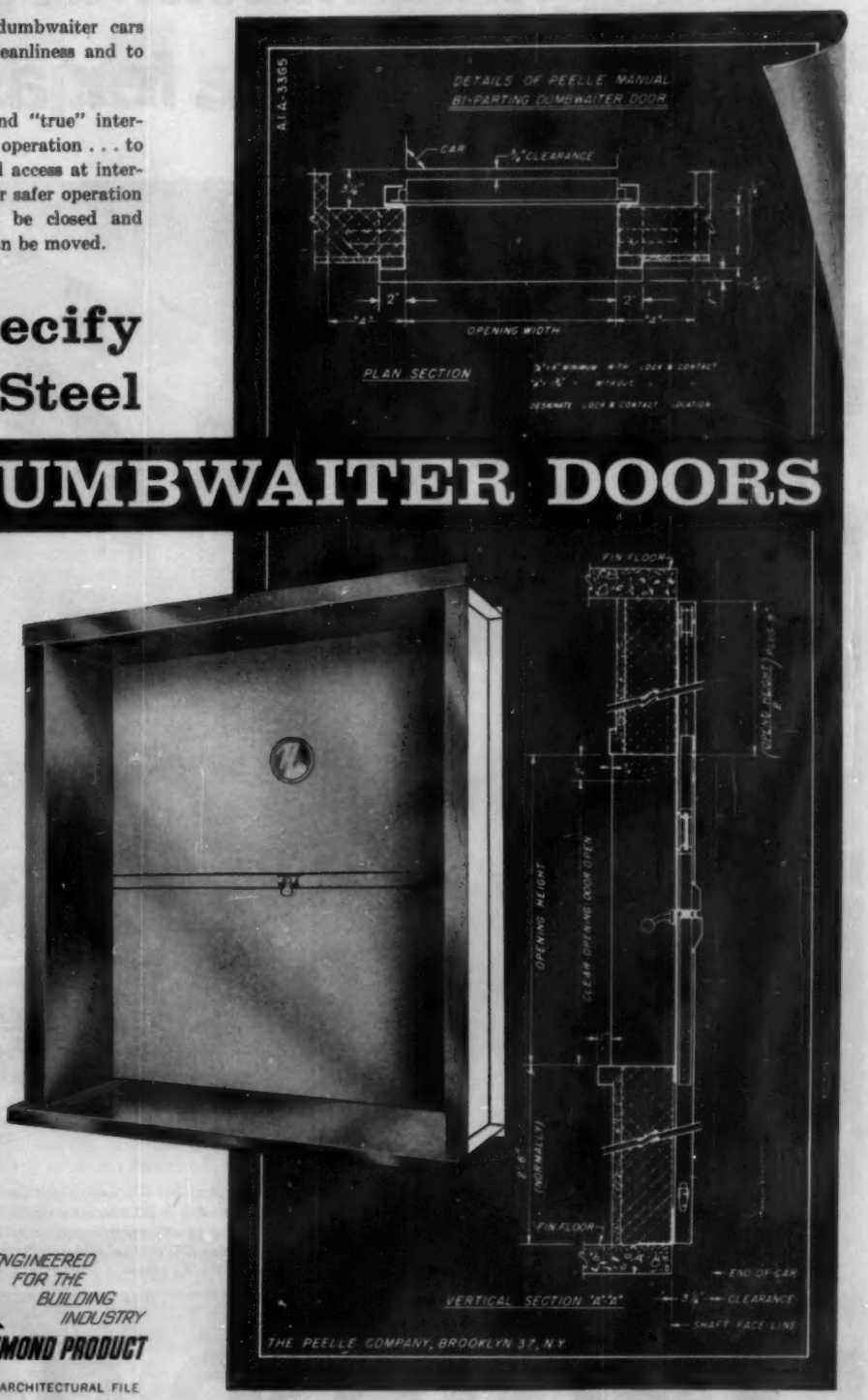


Dumbwaiter specifying suggestions for architects preparing hospital designs

- Use stainless steel dumbwaiter cars and car doors for cleanliness and to prevent corrosion.
- Use retiring cams and "true" interlocks . . . for quieter operation . . . to prevent unauthorized access at intermediate floors . . . for safer operation because doors must be closed and locked before they can be moved.

Specify Stainless Steel for DUMBWAITER DOORS

- To eliminate repainting costs due to scratched and worn finish on painted surfaces.
- To assure permanent attractive finish providing cleanliness and freedom from corrosion.



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PEELLE FOR DOORS FREIGHT ELEVATOR DOORS • DUMBWAITER DOORS • INDUSTRIAL DOORS

New from Lennox! Fresh air for classrooms . . . for as little

Lennox Air Processing Unit introduces fresh air in adjustable volumes (A); transmits warm air (B) from adjacent or remote heating unit; continuously recirculates indoor air (C); filters air clean (D). Lennox' exclusive floating blower (E) and acoustical lining (F) assure a degree of quietness never before achieved.

LENNOX COM

heating and ventilating as $1.03 per square foot!

New Lennox Comfort Curtain system automatically draws in fresh air from outside...warms, cleans, circulates air...provides tons of needed cooling without the cost of refrigeration!

Across the country, the Comfort Curtain system is drastically reducing the cost of school heating and ventilating. Costs per square foot of $1.03 in Indiana, $1.15 in Montana, $1.12 in South Dakota are typical examples. One job went in for a cost so low we hesitate to quote it—*just 65c per square foot.* That was in Potosi, Missouri!

A NEW APPLICATION

These exceptional savings are the result of a new approach to classroom heating and ventilating, provided by the Lennox Comfort Curtain system. This new system applies to schoolrooms the sound, tested principles of warm air heating (long the preferred method of residential heating), thus eliminating the pipes, boilers, towering chimneys and inflexible heating plants that have made average heating installation costs considerably higher.

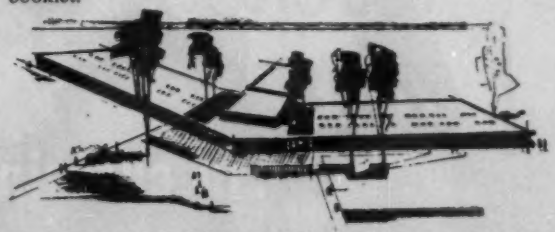
Nor is this all. The Lennox Comfort Curtain can easily save hundreds of dollars per classroom each year it is in use. Fuel is consumed only when heat is required, maintenance and service are amazingly simple and low-cost—well within the capacity of any competent local heating dealer.

And most important, the Lennox Comfort Curtain system actually does a *far better* job than costlier systems used previously. The Comfort Curtain does a *complete* job, provides a full, even flow of air throughout its entire length along the exposed classroom wall. It is amazingly quiet. And it holds room temperatures to a variance of six-tenths of one degree, circulates air continuously for perfect distribution, introduces a continuous supply of fresh air during the daytime heating cycle, and provides *tons* of needed cooling without the cost of refrigeration.

COOLING WITHOUT REFRIGERATION!

Extensive surveys show that on almost every day when the temperature is above freezing, the classroom no longer requires heat, shortly after pupils assemble. True, at 33° the average classroom needs about 20,000 Btuh. But 30 pupils will generate about 12,000 Btuh, lighting will add another 8,000 to 10,000 Btuh, and the sun load can account for as much as 15,000 Btuh. Since the amount of heat being generated exceeds the classroom heating requirement, it becomes necessary to *cool* the classroom to maintain a healthful, comfortable temperature. The Lennox Comfort Curtain system does this automatically by introducing cool, fresh outside air to meet the need. Even if the temperature of the outside air is as much as 50°, the equivalent of two tons of cooling can be provided in this way

There is today no possible way to achieve all these advantages at so little cost—except with the Lennox Comfort Curtain. The system is completely flexible, uses child-proof wall- or bookshelf-ducts, installs readily in any size or design of school, comes completely equipped with a "laboratory matched" control system. Send coupon below for free booklet.



The 24-classroom Junedale school, located in Gary, Indiana, will be heated and ventilated by the Lennox Comfort Curtain for $1.03 per square foot. Architect: David J. Katz, A.I.A. Heating Contractor: Quality Heating and Air Conditioning.

LENNOX

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Lennox Industries Inc., Dept. AR-81
1701 E. Euclid Ave., Des Moines 5, Iowa

Gentlemen: Please send me your free booklet on the Comfort Curtain system of classroom heating and ventilating.

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FORT CURTAIN

Robert Schofield Morris Wins 1958 Royal Gold Medal

Robert Schofield Morris, partner in the Toronto firm of Marani & Morris and a past president of the Royal Architectural Institute of Canada, has attained international recognition in winning the Royal Gold Medal for Architecture for 1958.

Presentation will be made in London on April 15, by the Royal Institute of British Architects, acting on behalf of the Queen.

Mr. Morris is the first Canadian to win the award since it was made to the late Frank Darling, also of Toronto, in 1915. The Royal Gold Medal was instituted by Queen Victoria in 1858. Past winners have included such notable figures as Sir Ernest George, Sir Gilbert Scott and Sir Patrick Abercrombie, all of Great Britain; Frank Lloyd Wright, Dr. Walter Gropius and Eliel Saarinen of the United States; Le Corbusier of France; Victor Vesnin of Russia, and Alvar Aalto of Finland.

In recent years, Mr. Morris has participated in designing such buildings as the Medical Arts Building in Toronto, Fort York Armory in Toronto, Bank of Canada in Ottawa and the Canadian National Exhibition grandstand.

The firm of Marani & Morris is now conferring with the Toronto parks board on the proposed expansion of the C.N.E. grandstand. It also designed the Shell Oil Building, the Maclean-Hunter publishing building, and the Bank of Canada building being constructed on University Ave., and the Great-West Life Assurance offices built in Winnipeg.

A native of Hamilton and a veteran of the First World War, Mr. Morris graduated in architecture from McGill University and studied in Italy, France and England.

O.A.A. Studies Church Problem As Public Service Project

A new facet of the Ontario Association of Architects' public service program has been revealed.

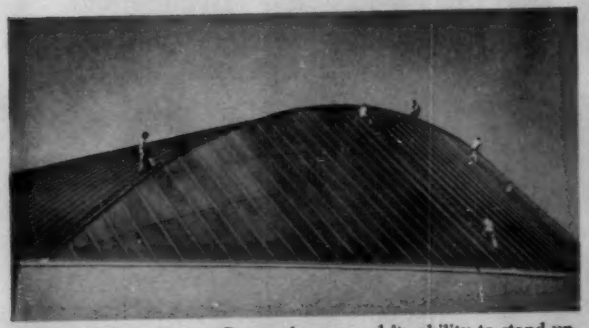
The problem dealt with concerns the provision of temporary accommodation for new church congregations. A committee under the chairmanship of Dr. F. Bruce Brown recently investigated what help could be offered to such congregations, or to church extension and other committees

Branch bank, Imperial Bank of Canada, Vancouver: one of many being erected under Bank's comprehensive building and modernization program. Architect: Gerald Hamilton of Vancouver, in collaboration with John C. Rankin, Toronto

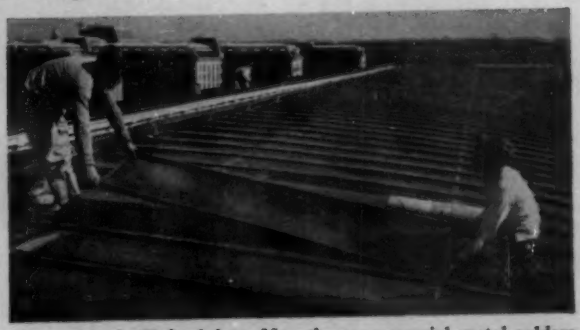
Prevent Leaks
...in curtain walls
New glazing and sealing techniques and products developed by Tremco research can insure leak-free curtain wall installations.
You'll find important information and specifications in a brand-new publication "SEALING GLASS AND PANELS IN CURTAIN WALL CONSTRUCTION."
Ask your Tremco Man for a copy, or write: The Tremco Manufacturing Company, 8701 Kinsman Road, Cleveland 4, Ohio, or The Tremco Manufacturing Company, (Canada) Limited, Leaside, Toronto, Ontario.
"When You Specify a Tremco Product —You Specify a Tremco Service!"
TREMCO
PRODUCTS AND METHODS FOR BUILDING MAINTENANCE & CONSTRUCTION

New Field House (lower left) at U. S. Naval Academy, Annapolis, offers an indoor area 200' by 370' by 70' high for sports events and practice. Its huge roof is covered with Anaconda sheet copper, installed by Overly Manufacturing Co., Greensburg, Penna. General Contractor: Wm. E. Cramer Co., Washington, D. C. Architects: Harbeson, Hough, Livingston & Larson; also Von Storch, Evans & Burkavage, both of Philadelphia, Penna.

136,000 pounds of Sheet Copper protect new Naval Academy Field House



Long-range economy. Copper has proved its ability to stand up through the years. Its long service makes sheet copper one of the most economical roofing materials.



Permanently Tight Joints. No other commercial metal solders like copper. Cross joints in the roof pans at the crown are clinch locked, soldered. Ends of pans are pre-tinned.

Minimum maintenance. Copper, in aging, acquires an attractive patina; it requires no special care or attention. A copper roof is lasting, weather-tight . . . needs no expensive maintenance.

Freedom of design. Copper is so easy to bend, form, and fasten that it can be adapted easily to any type of building. Techniques have been developed to meet modern structural problems.

FREE BOOK. "Modern Sheet Copper Practices," published by The American Brass Company, was designed for the architect, specification writer, and sheet metal contractor. It is a practical guide, with clear, brief suggestions and drawings to help meet everyday problems. For your copy, address: The American Brass Company, Waterbury 20, Conn. 5729

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A full color idea book on Formica Interiors is yours for the asking. Write Formica, 4603 Spring Grove Ave., Cincinnati 32, Ohio. Formica regional offices now have a color slide film "Decorative Art in Formica" illustrating a wide variety of Formica wall treatments and application methods as described on the facing page. A showing can be arranged at your convenience by calling your local Formica office.

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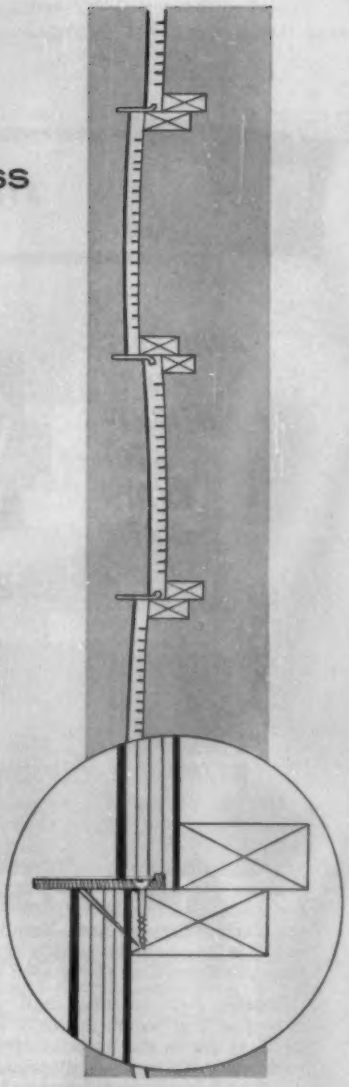


A Wall of Distinction with FORMICA AND BRASS

This serpentine wall is made up of 4′ panels of plywood scored or kerfed from the back for bending to proper radii. Using Formica Fast Dry Contact Bond Cement, 1/16″ decorative Formica and Formica backing sheet were veneered to either side of the formed plywood. The panels were shop assembled in sections and screwed and glued to vertical and horizontal framing.

Standard grades of Formica are completely satisfactory for any large radius of this type and no heating is required.

The brass divider strips were handled in accordance with the detail drawings.

A wide variety of Formica wall treatments can be obtained either through shop veneering or on-the-job application. Multicolor effects in random planking or geometric designs can be done with standard material.

New Decorative Art in FORMICA

For the first time in the laminated plastic field, a new kind of decorative art is available. Formica can duplicate your paintings and murals or execute original art pictures of your ideas. The art is sealed in the Formica sheet, thereby protecting it from dirt, fading and damage. In addition, nearly any pattern, trade mark or repetitive design can be produced in Formica via silk screen printing.

There is a Formica district representative near you who is well qualified to provide technical assistance. If you would like technical specifications on Formica wall surfacing, write Formica, 4603 Spring Grove Ave., Cincinnati 32, Ohio, ask for spec. bulletins 114A and 105A.

This mark certifies genuine

Be sure you get genuine Formica. Look for this wash-off registered trade mark on the surface.

charged with the responsibility of providing such accommodation.

It is customary for such congregations to use "portables" or prefabricated temporary buildings. These are often quite unattractive and uncomfortable. Suggestions had been made that these buildings could be improved by providing stock designs, or by designing the temporary building so that it could in the future be incorporated into the completed new church buildings.

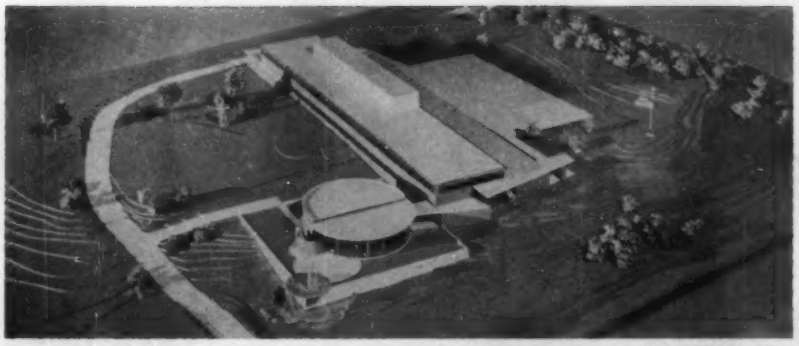
The committee took its findings to the O.A.A. Council for further deliberation. Final conclusions may be summarized as follows:

(1) The less suitable the temporary building (within reason) the greater the incentive there is for a congregation to go ahead with a permanent building.

(2) Provision by the O.A.A. of free designs for temporary buildings would be difficult of accomplishment and could infringe on the work of architects in private practice. The use of such drawings, in the light of experience with one-room schools, would be very limited.

(3) The suggestion that a temporary building could be designed to be incorporated later into the permanent building is impractical, unless considerable funds and the architect's complete design are available. This takes the job out of the realm of the cheap, temporary building which is usually all that can be provided until the congregation is in a stronger financial position.

On the positive side, the Council agreed that the O.A.A. should stand in readiness to give such assistance as may be considered appropriate, to



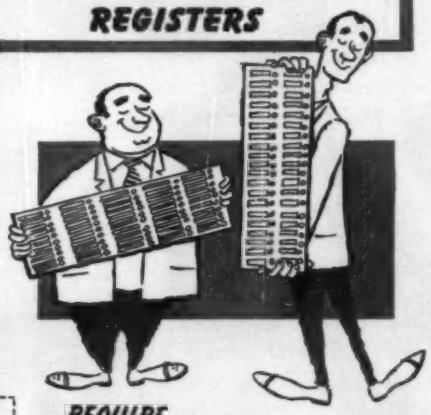
Laboratory for the Ontario Water Resources Commission, Toronto; Fisher, Tedman & Fisher, architects

Office building to get under way this spring in Phillips Square, in the heart of Montreal; cost is estimated at $2 million. Architect: Andre Blouin

new

MODULAR STAFF IN-AND-OUT REGISTERS

AVAILABLE IN ANY HEIGHT-TO-WIDTH RATIO



REQUIRE LESS THAN HALF THE SPACE USED BY OTHER REGISTERS WITHOUT SACRIFICING AREA FOR NAMES

Modular design makes Couch registers available in many name capacities and height-to-width ratios at competitive prices. Flexible grouping of unique plug-in name-tile units requires less than half the space used in other registers — without sacrifice to name area. Name tiles and long life lamps can be quickly changed by simply withdrawing the plug-in unit.

Couch's new modular staff in-and-out registers located at key points instantly indicate which staff members are in the hospital. Just a flip of a switch by a reporting member illuminates his name tile at all register locations, informing hospital personnel of his presence. When leaving the hospital, a switch operated at any register extinguishes his name tile at all registers. For hospitals with message centers, flashing name tiles (message indicators) may be incorporated.

To see how you can have a custom-built register system at standard system cost, write today for Bulletin H9.

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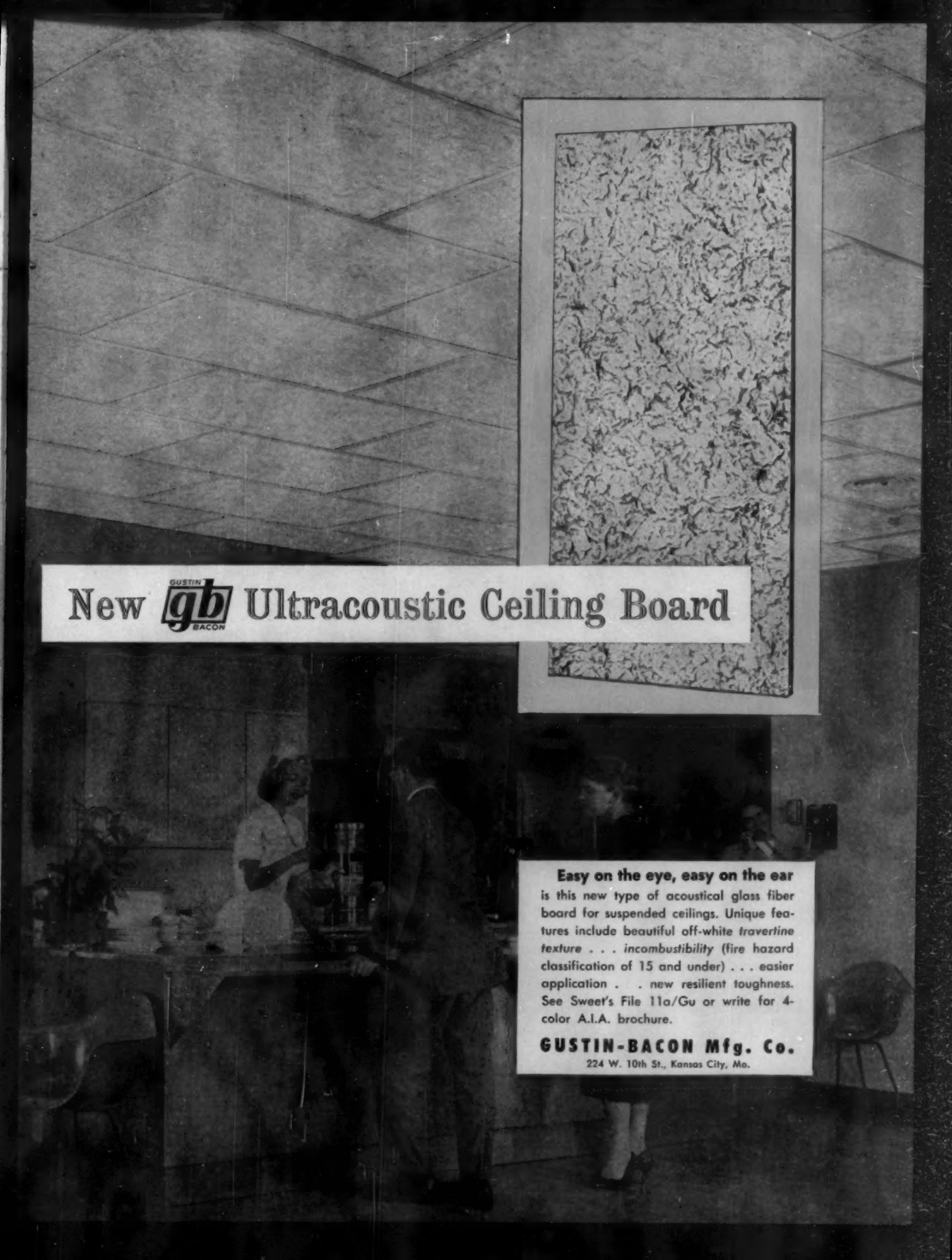
Couch


New GUSTIN gb BACON Ultracoustic Ceiling Board
Easy on the eye, easy on the ear
is this new type of acoustical glass fiber board for suspended ceilings. Unique features include beautiful off-white *travertine texture* . . . *incombustibility* (fire hazard classification of 15 and under) . . . easier application . . . new resilient toughness. See Sweet's File 11a/Gu or write for 4-color A.I.A. brochure.
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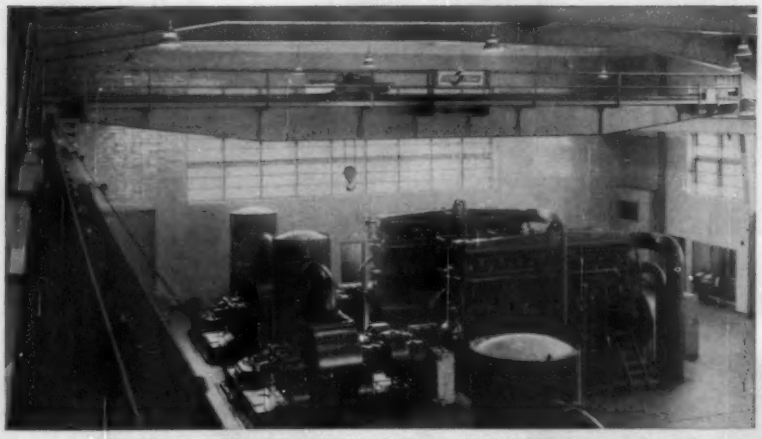
OVERHEAD ELECTRIC CRANE



CONCO "CRB" OVERHEAD ELECTRIC TRAVELING CRANE installed in municipal sewage disposal plant.

A feature of this Conco "CR" series crane is a worm and gear mechanical load brake which provides maximum safety, lower first cost, and the elimination of any adjustment or service needs. The brake offers a virtually limitless service life. It has only 2 moving parts. Conco "CR" cranes are one of many types custom-built for all classes of service. To engineers Conco offers two important facilities: A plant flexibility that permits true custom-building at a practical cost. And, a staff qualified by 50 years experience to provide such design assistance as you may request. May we submit specification data, an estimate, or a proposal on your next crane requirement? Write for Bulletin 3000A.

APPLICATION NOTE: Conco has engineered special spark-proof and explosion-proof cranes for installations such as Naval Ammunition Depots, U. S. Air Force Bases, the U. S. Atomic Energy Commission, and Thiokol.

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See Our Catalog: Sweet's Industrial Construction File

News from Canada

nominate architects for service on architectural boards or committees, and to render all possible guidance in response to specific requests from congregations or denominational committees.

Four Firms Given Design Awards, 1958 Housing Gain Forecast

Four architectural firms were honored as recipients of the 1958 Canadian Housing Design Council awards at the National House Builders Association convention in Toronto recently.

These firms, whose builder-clients were winners in the coast to coast competition, were: in the houses of 1150 sq ft and under category—Edward Ross, Toronto; in the houses over 1150 sq ft but under 1500 sq ft category—James A. Murray and Norman R. Stone, both of Toronto, and Clack & Clayton, Victoria, B. C.

The awards were presented by Hon. Howard Green, Federal Minister of Public Works, who also used the occasion to predict a brilliant year for housing. He said that the government's target was 140,000 starts, and that further mortgage funds would be provided if necessary. By contrast, starts in 1957 totaled 122,000.

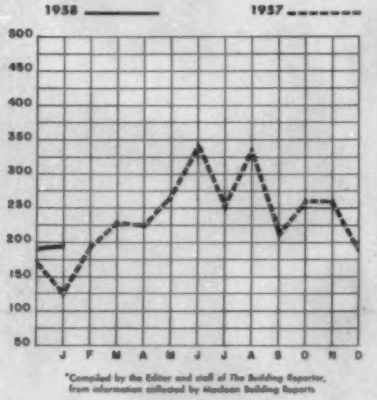
Charles T. Carson Named to Head Ontario Engineers' Group

Charles T. Caron of Walkerville has been elected 1958 president of the Association of Professional Engineers of Ontario. New vice presidents are A. F. McQueen of Niagara Falls and G. M. McHenry of London. John H. Fox of Toronto is immediate past president.

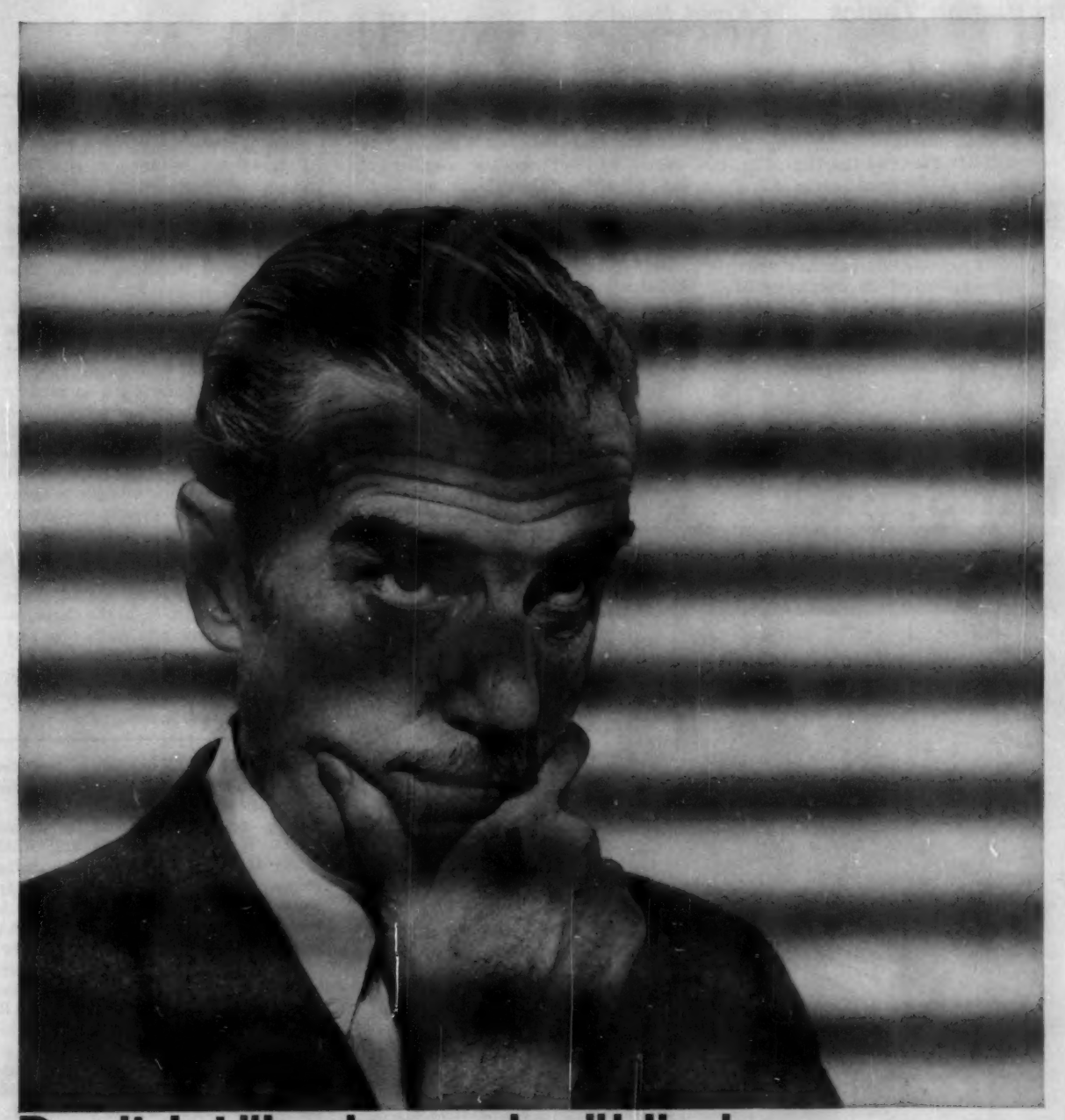
continued on page 314

Contracts Awarded: Comparative Figures*

(in $ million)

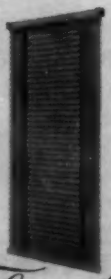


*Compiled by the Editor and staff of The Building Reporter, from information collected by Hodgson Building Reports



Don't let "hodgepodge" blinds cast a shadow on any job of yours!

Because all venetian blinds are assembled locally, there's always the risk of getting blinds that are assembled from a *hodgepodge* of components. This can cause operating malfunctions, light leaks, and service maintenance problems. That's why it's important to specify "Flexalum Twi-Nighter venetian blinds." This is the blind that assures tighter closure (a must for direct sun exposures), longer life and less care. The Flexalum Twi-Nighter is the only blind where *every component, including raw materials, is made by one manufacturer.* And it is assembled locally *only* by licensed Flexalum Manufacturers under strict Hunter Douglas quality control. Protect yourself *and* your clients.



Eight laboratory tests by independent firms such as the U. S. Testing Co. prove the superior quality and performance of all Flexalum Twi-Nighter materials and components. Ask to see these test results. And remember, you write them into your specifications for *all* "Flexalum Twi-Nighters."

Flexalum TWI-NIGHTER® VENETIAN BLINDS

Hunter Douglas Aluminum Division of Bridgeport Brass Company, 405 Lexington Ave., N.Y. 17.

New Efforts Under Way To Keep Capitol East Front As Is

The controversy over moving the central East Front of the U. S. Capitol building forward some 32 ft moved rapidly toward a climax during the early weeks of this year. The Committee to Preserve the National Capitol, a private non-partisan group of citizens formed on December 20, 1957, after the first of this year gained strength and prominence, making itself heard by the Public Works committees of Congress.

As a result of the new excitement over the proposed remodeling of the building, the date of February 17 was set as the time when members of the Senate's Public Buildings subcommittee would begin hearing pros and cons on the issue of East Front extension. Announcement of the hearing was made by Senator Pat McNamara (D-Mich.), chairman of the subgroup, who said the session had been requested by Public Works Committee Chairman Dennis Chavez (D-N. Mex.). It was understood that the February hearing resulted largely from the pressures exerted by the new Committee.

Bulletin

John F. Harbeson, F.A.I.A., of Philadelphia testified at the February 17 hearing that he did not feel the consulting architects had been "hampered" by the wording of the appropriations act making extension of the East Front mandatory.

Considerable discussion developed on the deteriorated condition of the East Front and Architect of the Capitol J. George Stewart was sharply questioned as to why the deterioration had gone so far when maintenance funds are available. Mr. Harbeson, the only one of the three consulting architects to testify, said in response to questions that he believed it would cost less to rebuild the East Front entirely than to repair it. Mr. Stewart was pressed also on the "secrecy" surrounding the actual plans for extension; he said the Commission would have to authorize any release.

Actual start of construction awaited specific authorization by the Commission.

This group is chaired by Julian Berla, F.A.I.A., of Berla and Abel, Washington, D. C. In announcing formation of the committee, Mr. Berla declared that "the danger is real and immediate that the original walls and portico of the central portion of the East Front will be obliterated." His reference, of course, was to plans already announced (AR, Oct. 1957, page 32) by Capitol Architect J. George Stewart calling for an ambitious renovation job that would expend some $110 million on providing more space in the old building for Congress, the East central front portion to be moved outward 32.6 ft in the process.

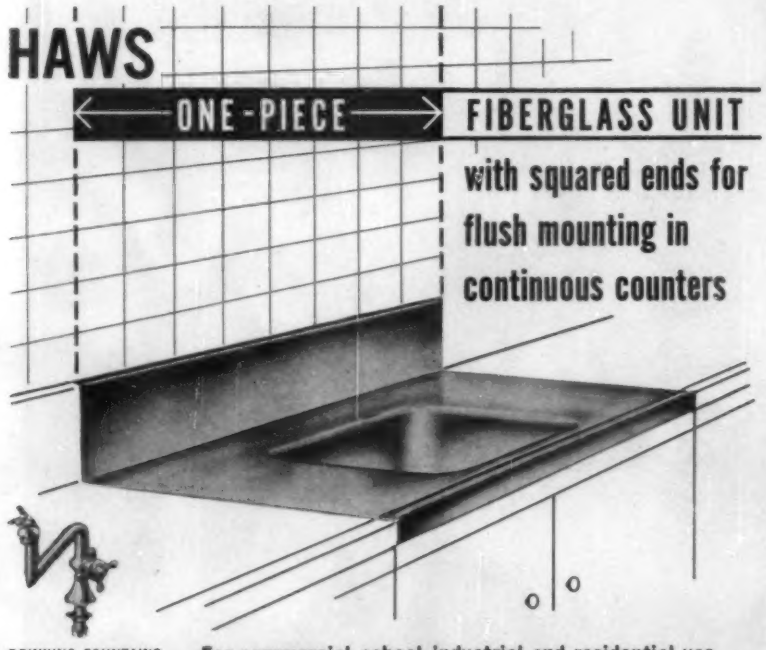
Appeal to Commission

The private committee has taken the position that the needed additional facilities can be provided without "destroying the historical integrity and architectural beauty of the East Front."

In a letter to the Congressional Commission charged with responsibility for the Capitol work, the Berla committee argued as follows:

"We sincerely hope that your Commission will review the plan to rebuild the East Front in accordance with the controversial Scheme B of 1905. This plan for extending the

continued on page 354



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Individualism and Unity: Two Essentials of Architecture

Just recently some young architects asked, "What is ethical practice? What we were told at school doesn't seem to be what established offices do."

This is a good question. What is ethical practice? Is there a finite definition that applies to all architects, to all offices? How can young architects know what is architectural ethics? Whose example shall they follow?

One of the peculiar things about architecture is that its virtues are often also its faults. One of these is individuality—the essence of architecture, its lifeblood; and frequently its curse.

It is a virtue and a glory to architecture when it is a means to independent thought and action. But it becomes a curse when it is used as justification for advancing individual interests and when it thus partakes of the "doctrine of pure egoism" and the "principle that all actions are determined by, or at least exist for, the benefit of the individual and not the mass of men"*—i.e., in this case the professional group of which the individual is a member.

It is this very individuality that makes every practice different, every approach to design different (even when not inherently good), and every understanding of ethics, every interpretation of the mandatory standards of conduct, different from every other.

No one of us would deny the individual approach in design as an inherent basic and essential right of architecture; no one of us would alter this in any way. But when it comes to the *professional* approach, the only possible justification for an individual interpretation of what this means is to raise the standards of practice. But too often it works the other way.

A united front on design would be the death-knell of architecture. A united front on standards of professional practice would be a life-giving transfusion.

How can this be done? There are two ways of teaching anything and both are necessary: by precept and by example. We cannot dispense with either, but where the first becomes the responsibility of the schools, the second is the duty of the practicing members of the profession. Without the *example* of integrity the neophyte architect stumbles and, sometimes, falls. With it he endures many hardships, for he considers himself—like almost all, no matter how "practical," how "business-like," who seek to become architects—an idealist, and to maintain the ideal is more important than anything else.

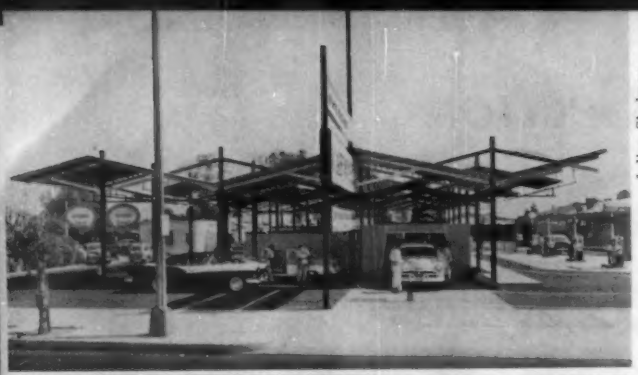
To teach ethics may require a separate course in the philosophic concepts that make up a system of ethics; but it can also be done—and should be—as an intrinsic part of every course that a student studies.

To practice ethics requires self-discipline and a willingness to pursue the common good, not of the profession itself, but of all men. For as we always say, architecture is *the social art*. If it is not concerned with the common good of all men, just how social is it?

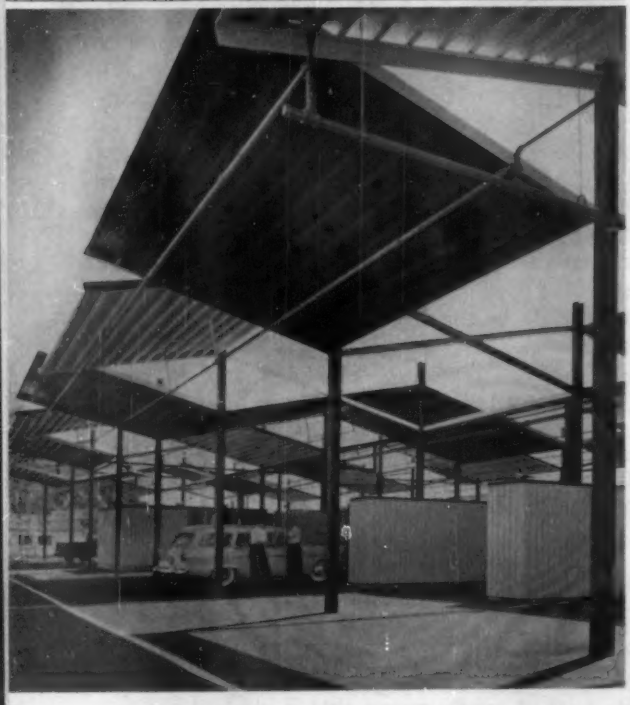
As a group, the architectural profession is good at saying remarkably fine-sounding things. If we say them, let's *be* them; example is not only the natural follow-up to precept. It is also the way to make, in this particular case, a virtue of a fault.

E. K. T.

*From *The American College Dictionary*, Random House, 1956.



Julius Shulman



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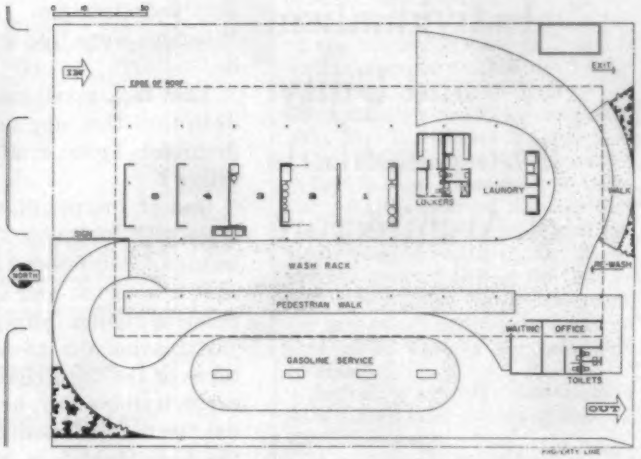
3. Upholstery Cleaning
4. Upholstery
5. Polish



College Car Wash, Pasadena, California
Smith and Williams, Architects

Located on Pasadena's main street, Colorado Boulevard, this car wash with its many roof planes and open air operation is a gay note in the city's business district. The prefabricated steel deck panels used for the roof were primarily a means of providing space for each function in the service operations, but they were economical, quickly produced and erected, are lightweight and moisture resistant, and make possible a variety of surfaces and textures.

The canopy shelters all operations (except gas sales) but permits high, bright and uniform illumination, and opens every operation to the view of patrons and passersby. Prefabricated steel decking is also used for the other structures at the station. Two working areas are provided: one is out of doors in a landscaped plot, the other is indoors, and is completely air conditioned.

Car service structures designed as lively

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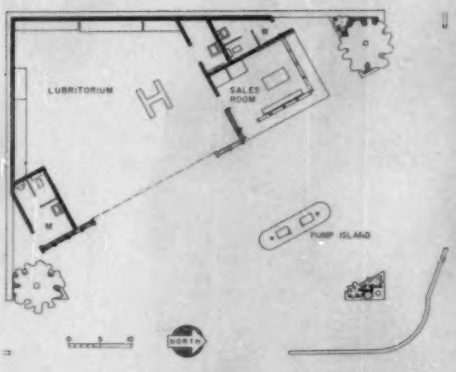


Mobilgas Service Station, San Francisco
Campbell & Wong, Worley K. Wong, Architect

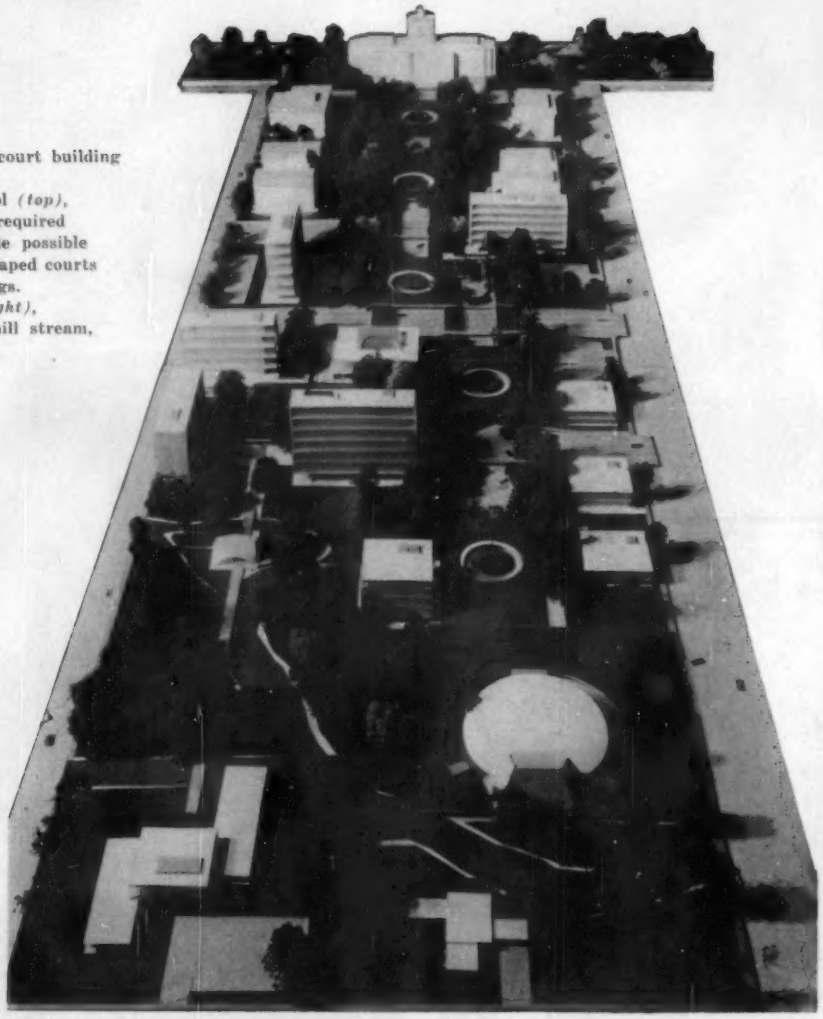
This small service station in San Francisco's Chinatown replaces an old eyesore with a structure designed not only to function well but to add a pleasant sight to the urban scene. It does this, incorporating enough local character to hint at its colorful location but in doing so avoids the clichés usual in conscious attempts to design regionally.

The main structural system is a rigid frame on columns set in concrete piers. Instead of the sheet metal facing of the conventional service station, masonry panels were used on the front wall. Standing seam copper roofs on the main building and over pump island have already acquired a pleasant patina.

The green perforated Chinese garden tiles on the back wall of the sales room—the only direct reflection of the locality—provide both color and texture familiar to the neighborhood.

parts of the urban scene

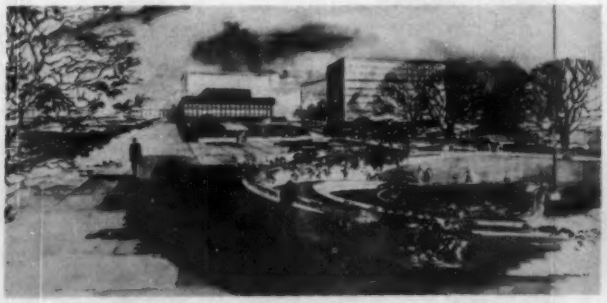
Location of supreme court building at mall's mid-point, just off axis of capitol *(top)*, gave it prominence required in program, and made possible development of landscaped courts between other buildings. Auditorium *(lower right)*, located on bank of mill stream, creates a third axis



Oregon approves a master plan for development of its Capitol Mall

Practically ever since the completion of Oregon's capitol building in 1939—from designs by Francis Keally of New York, who won the national competition for the building—the state has dreamed of the day when its Capitol would have the sort of setting that such a building deserves. Last year the Capitol Mall Planning Commission at long last had the money to proceed with a master plan and recommended appointment of the Eugene firm of Wilmsen and Endicott, architects, with architects Keally and Herman Brookman, F.A.I.A., of Portland, and Lloyd Bond, Eugene landscape architect, as consultants. Just before the end of last year, the architects presented their proposal for the ultimate development of the Mall and, to everyone's satisfaction, it was approved by both the capitol planning commission and the state board of control.

Urgent as is the need for office space for the labor and industries board and for the supreme court—both handsomely provided for in the scheme—the immediate basic problem which the proposed plan solves is one which is the number one national headache: parking. By raising the upper surface of the mall four feet and lowering the area beneath six feet, a covered parking area is provided. The upper surface, pierced at intervals by circular openings which give access by ramp to the lower level and make possible fountains at the mall level and natural lighting at the lower, becomes a promenade with "innumerable vistas, short and long."



Basic to scheme is provision of parking under paved mall areas with access by circular ramps which also act as light and air wells. Landscaping and fountains add color and movement

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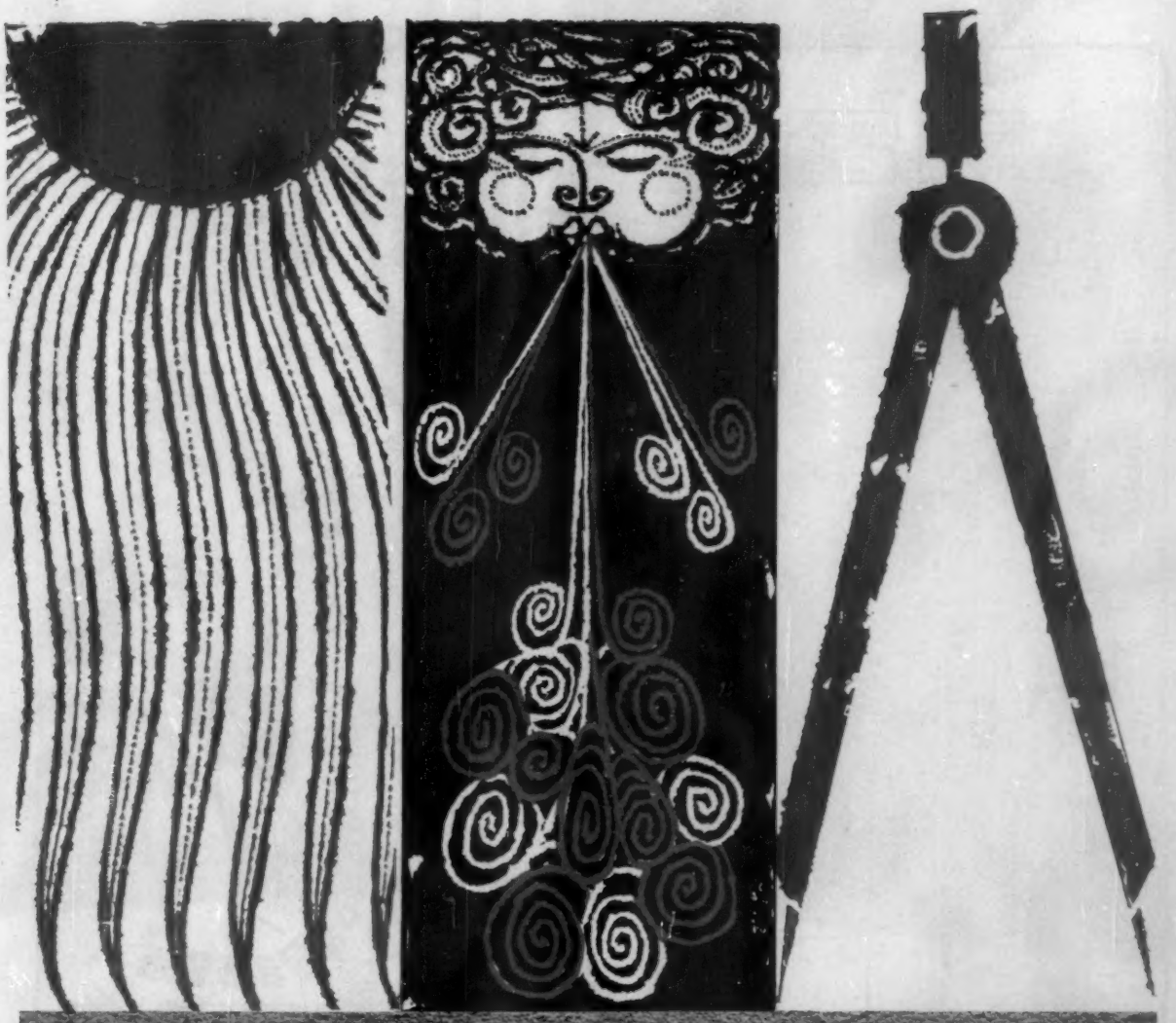

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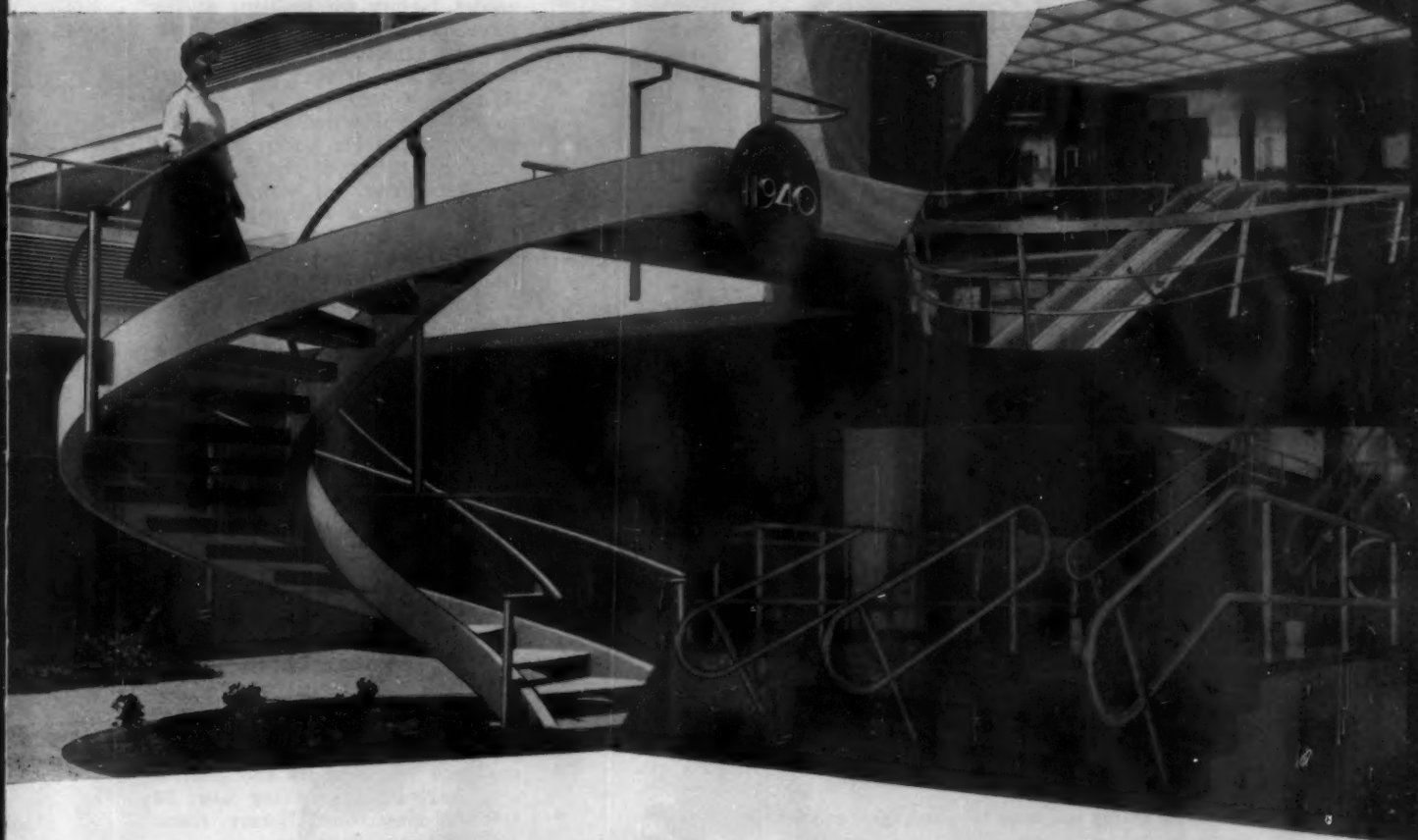

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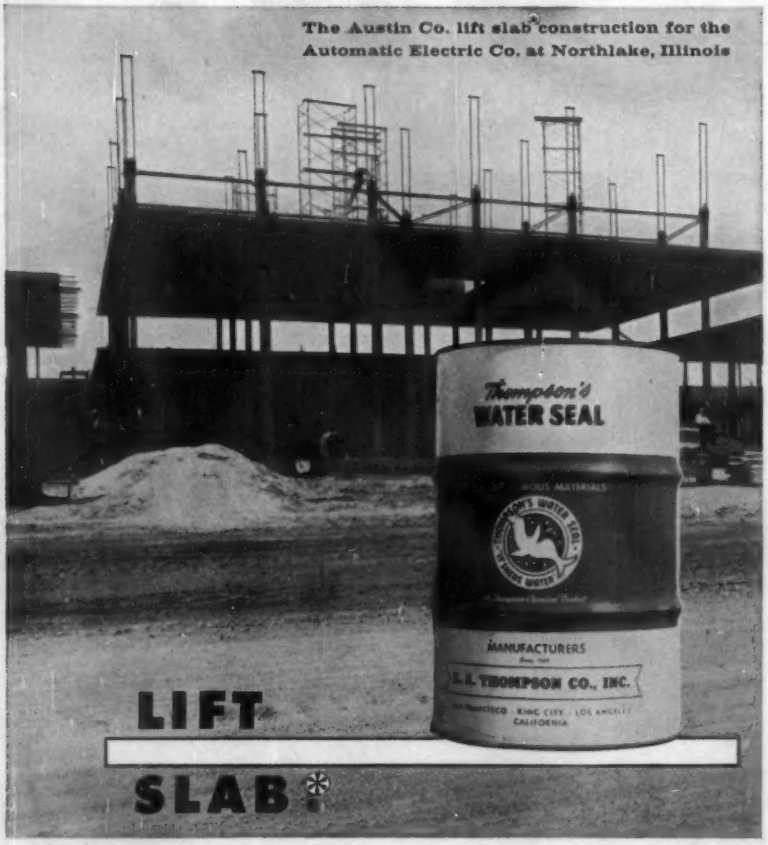

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Art Institute Gets New Building

A new $870,000 art gallery studio and library has been opened at Los Angeles' County Art Institute (formerly known as the Otis Art Institute), providing not only a much needed facility for students at the school, but a gallery where the public can see exhibitions of famous art works as well as work by Institute students. Millard Sheets, trained as an architect and well known among architects for his water colors, is director of the Institute.

The building, for which Austin, Field and Fry of Los Angeles were architects, is a two-story, windowless structure with exterior walls of travertine marble, enclosing two exhibition halls on the first floor, studios on the second floor daylighted by sawtooth monitors, and a library for the Institute's already large collection of books on art.

Denver To Build Six-Year High School

A six-year high school—to include grades seven through twelve—has been approved for construction by the Denver Board of Education. The school will provide for 2000 students, and may later be used as a three-year high school if conditions warrant.

The building will include four gymnasiums; two laboratories each for biology, physics and chemistry in addition to a photography lab; a "multi-purpose science laboratory"; four rooms for industrial arts and one each for ceramics and general arts; various homemaking labs; 35 standard classrooms; library, music and other usual facilities.

Architects Selected for $45,300,000 Building

The contract for design of a lease-purchase project in San Francisco has been awarded to four San Francisco architectural firms. They are Blanchard & Maher; Stone, Molloy, Marracini and Patterson; Albert F. Roller; and John Carl Warnecke.

The building, one of the largest Federal buildings ever planned for construction outside Washington, D. C., will be 15 stories high, with basement and sub-basement. Its gross floor area is estimated at 1,466,000 sq ft. The estimated overall cost of $45,300,000 includes land costs.

Site for the building is a block near the Civic Center bounded by Golden Gate Avenue, Larkin, Polk and Turk Streets. Legal proceedings are now under way for acquisition of the site.

The building is to house the United States Courts and regional and local offices of eight Federal agencies—Civil Aeronautics Board, General

continued on page 48-18

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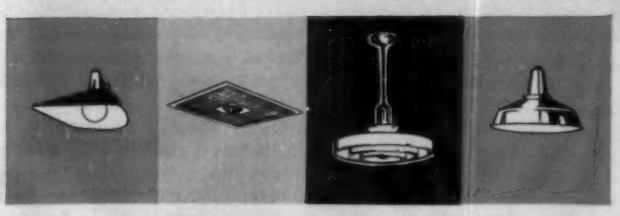

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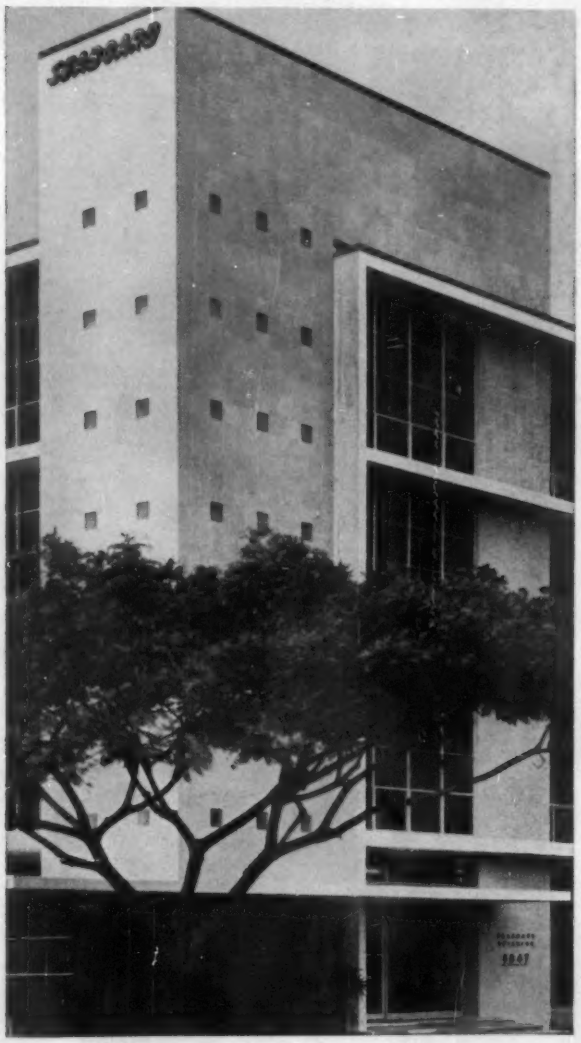

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Western Colleges Expand to Meet Higher Enrollment

Although the impact of the increase in college attendance has hit most of the West's colleges and universities, the state universities naturally carry the largest burden of heavier enrollment. To meet this, additional buildings are under way at practically all these institutions.

But the University of California—mammoth as it is—plans to add more campuses to its list of nine, and is currently looking over sites in the San Diego, Los Angeles-Orange County and San Mateo-Santa Clara-Monterey county areas. There is a possibility that a fourth campus, in the San Joaquin area, may be considered also.

Each new campus will require 1000 acres of land far from airports, "raucous" industries, and deteriorating areas (such as hem in the University of Chicago and Columbia) and high-priced neighborhoods which prevent faculty and students from living near the campus (as at Westwood, where UCLA's campus is located). The climate must be good for year-round outdoor living and must be free of smog. The area must have natural beauty and must provide some cultural activities.

None of the new campuses, however, will preclude further expansion of existing campuses. Over $43,000,000 has been earmarked for capital improvements next year. Obviously the course of learning is more than a scholarly pursuit: it is very big business as well.

Colorado, Wyoming, Utah, Oregon and Washington also are expanding their facilities, adding student housing, union buildings, classrooms and laboratory buildings as well as such special facilities as structures to house the new tools of the nuclear world such as accelerators and reactors.

The postwar phenomenon of married students' housing has preoccupied many a university, but Stanford probably had to meet a more pressing problem than most since the city of Palo Alto could not offer accommodations for all who came. A 250-unit apartment project, to be located on the Stanford lands, will be begun this year with Wurster, Bernardi & Emmons as executive architects for its first phase. Eventually it is expected to provide 1250 to 1500 units.

An unusual twist to the expansion program is the appointment of a committee of architects by the University of Washington charged with studying the problem of harmonizing the various kinds of architectural approaches typified in the buildings on the campus at Seattle. Members of the committee include Pietro Belluschi of Cambridge, Mass., Robert Price of Tacoma, Minoru Yamasaki of Detroit and Dean Arthur Herrmann of the school of architecture, University of Washington.

Two Centennials and a Fair Planned for 1959, 1961

Colorado and Oregon celebrate their centennial anniversaries next year, and both are planning state-wide celebrations. To what extent architects will be given opportunity to participate in these programs has not yet been announced.

Seattle, on the other hand, has appointed a design advisory board and two out-of-state consultants for the World Fair which it expects to stage, with aid from the entire state, in 1961 and 1962. The city's interest in the Fair transcends the normal part it would play in having the Fair within its boundaries, because simultaneously a civic center for Seattle is being planned for a site adjoining that of the Fair.

The Design Standards Advisory Board's proposed plan, announced late in December, is more ambitious than was originally expected, suggesting an overall development that would cost some $47,000,000-$52,000,000 more than has been appropriated by the city and state. Main features

Continued on page 48-14

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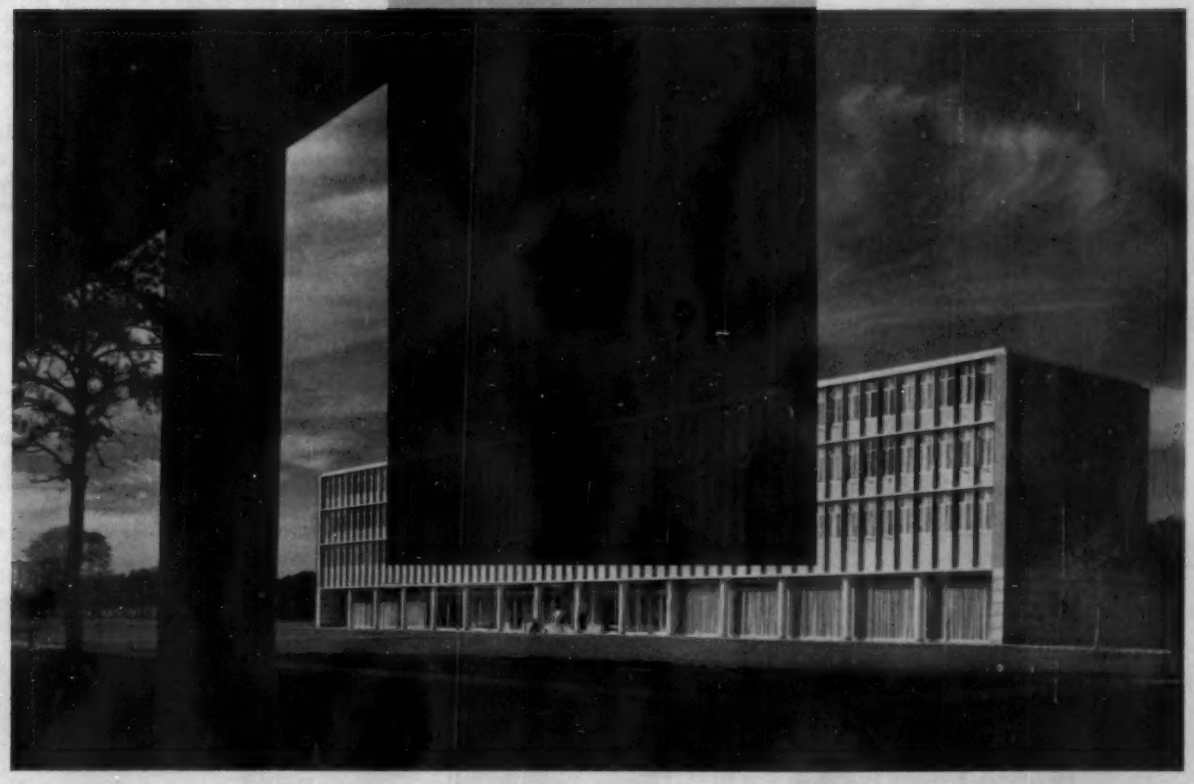

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Two Centennials and a Fair

continued from page 48-12

of its proposal are that the shell of the present auditorium be used to provide the outer structure for a concert hall (one of the original requirements); that the existing Memorial High School stadium be torn down and replaced with a plaza; that a bridge or monorail provide connection with a pleasure pier on the waterfront, 1000 ft away; that the major new building be an 800,000-sq-ft exhibit hall, to cost approximately $12,000,000; and that a 1000-seat "little" theater be built in addition to the 3000-seat concert hall.

Selection of the architect for the little theater will be by a state-wide architectural competition among Washington architcts. The auditorium conversion will be done under an architect selected by the Civic Center Committee, since this is the more urgent of the two projects.

To provide for sports events, a covered pavilion seating 12,000 to 15,000 will be built. The architect for this project will be chosen by an international architectural competition if the recommendation of the Design Advisory Board, headed by Seattle architect Perry Johanson, is accepted, and if the proposal to tear down Memorial stadium is approved.

Extensive landscaping of the Fair-Civic Center site is included in the plans. A ceiling of balloons over the main site and the pleasure pier is also a part of the plan.

But Seattle plans to beautify itself for a hoped-for horde of visitors by planting trees along its streets. First suggested by the advisory board, the plan has been approved by the city's Board of Public Works and is expected to begin immediately.

Denver Rejects New Tax, Renewal Plans in Jeopardy

The income tax, proposed by the city of Denver as a source of revenue it said it needed for pending public works and utilities, was turned down by a 5-4 margin in a special city election last December. Among projects which the tax money would have helped to finance were the urban renewal program's first project, Avondale; an engineering study for a freeway connection which was expected to have rehabilitated a sizeable area in the downtown section of the city; and purchase of land which the city expects to need in the future.

Hardest hit was the urban renewal program whose first project was almost out of the planning stage and ready for further financing. The agency had expected to spend around $2,500,000 in the next three years. An additional $5,000,000 would have been required as the city's part in the Federally-aided program.

The income tax would have been levied for three years, and the revenue from it would have financed an $18,750,000 capital improvements program. Denver residents already were paying state, city, county and school property taxes; state and city sales taxes; and federal and state income taxes.

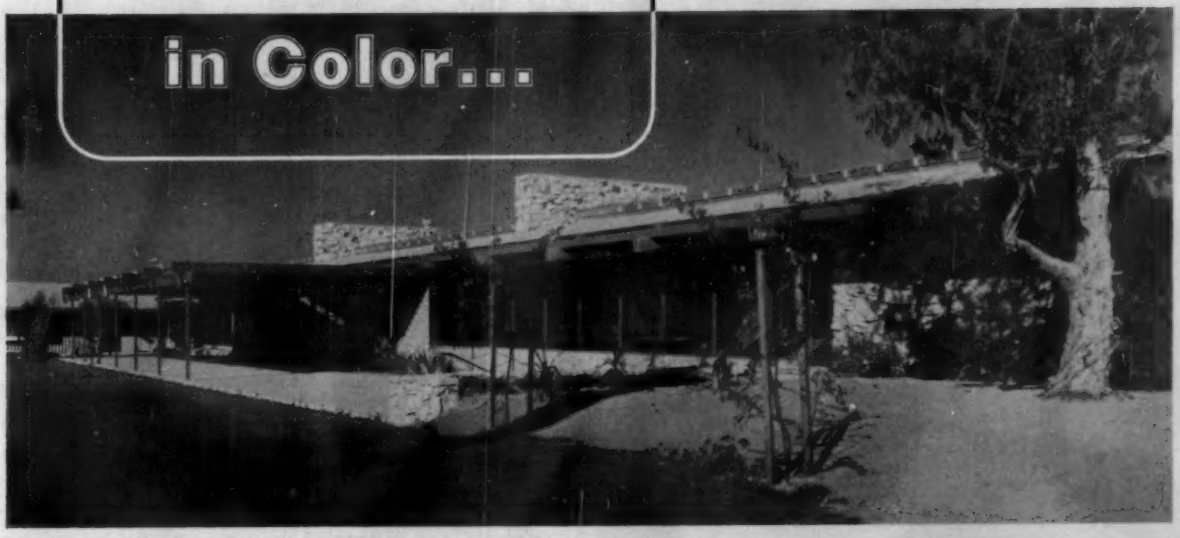
Professional News

Awards

WALTER GORDON, Portland architect, is the first recipient of an award given by the Portland chapter of Artists Equity for "outstanding contribution to promotion of cooperation between artists and architect." The award was presented during a showing at the Portland Art Museum of an exhibition on "The Artist in Architecture." PALMER & KRISEL, Los Angeles architects, received two national awards from the National Association of Home Builders, for houses in Palm Springs, Calif., and in El Paso, Tex.

continued on page 48-16

You should see it
in Color...

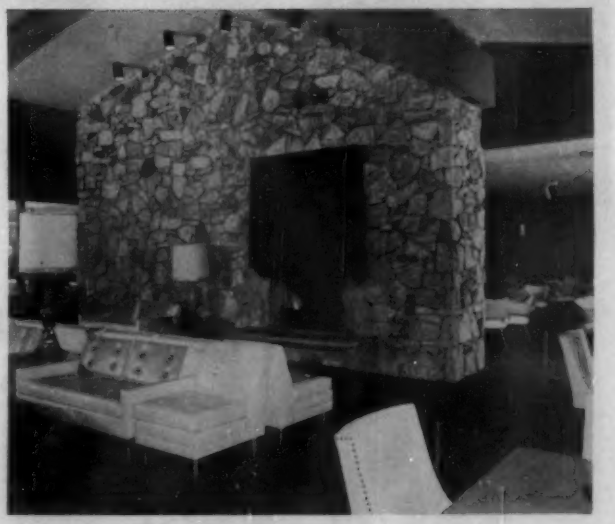


LOS COYOTES COUNTRY CLUB, BUENA PARK, CALIFORNIA

Architects: Welton Becket, F.A.I.A., and Associates
James Wilde, AIA

We mean both the country club and the Palos Verdes Stone which adds so much to the distinction of this beautiful building. OUTSIDE, the warm soft hues and rugged textures of Palos Verdes Stone 'key' the building to its site, make it an integral part of the countryside. INSIDE, the architect has used Palos Verdes Stone to achieve dramatic effect in this fireplace-room divider. Yet, so rich and subtle are the 'neutral' colors of Palos Verdes Stone, even this massive construction remains comfortable and compatible with the atmosphere of this smart new club.

Therein lies the great virtue of Palos Verdes Stone – the well-bred character which allows this decorative natural stone to be used in so many ways and to harmonize with every type of architecture and interior decor. *No other material adds so great a degree of distinction, at so slight additional cost, as genuine Palos Verdes Stone produced by Great Lakes Carbon Corporation.*



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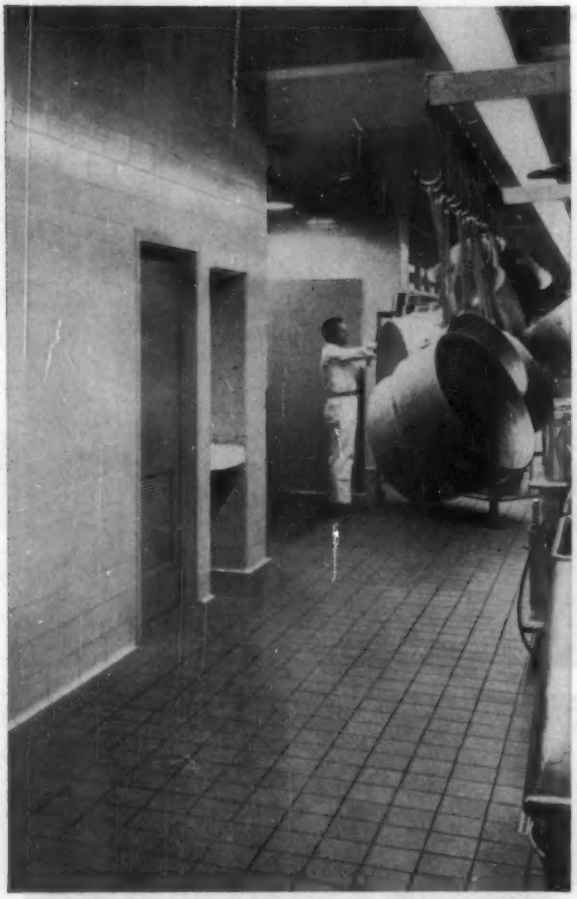

Agnews State Hospital, Agnew, California
Architect: California Division of Architecture

YOU CAN "FEEL" THE CLEANLINESS

It was almost mealtime (4:30 P.M.) when this photograph was taken. Yet, every inch of this Agnews State Hospital kitchen was as spotlessly clean and smooth as a cup on your own table at home. The time and effort it takes to keep this kitchen clean are surprisingly little, because of the use of tile. Walls of Kraftile Glazed *Structural* Tile are impervious to grease, smoke, acids and food stains. They wipe clean with one stroke, never need patching or painting. Installed cost is clearly competitive because Kraftile combines both wall and finish. Masons do the complete installation in minimum time. Wherever sanitation is important in your jobs, consider the practical beauty and economy of Kraftile, and its easy upkeep. Clear glaze plus 12 harmonious colors in standardized sizes and shapes. For complete information including graphic standards and specifications, write

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Professional News

continued from page 48-14

Convention Planning Gets Under Way

Plans for the Western regional conventions which will be held this fall are already getting under way. The three regions which make up the Western states include California-Hawaii-Nevada, Western Mountain and Northwest. Dates and locations for two of these conferences have already been announced; plans for the third were progressing but unannounced as this issue went to press.

California's state-wide organization, the California Council, A.I.A., whose annual convention has incorporated the regional meeting into its program, will continue this tradition. The convention will be held October 15-19 on the Monterey Peninsula, with headquarters at the Mark Thomas Inn, Monterey. Loy Chamberlain of Oakland is convention chairman.

In a departure from recent procedure, the Northwest region will hold its conference outside the United States, at Harrison Hot Springs, B. C., according to Albert O. Bumgardner of Seattle, chairman. Dates for the meeting are October 9-12.

Exact location and dates for the Western Mountain region conference have not been selected, but the meeting will be held in Denver, September 25-27.

Resignations

SIDNEY W. LITTLE, dean of the school of architecture and allied arts at the University of Oregon, Eugene, has announced his resignation, effective July 1, 1958, as dean, a post he has held for the past 12 years. He will remain at the university as professor of architecture, teaching design and doing research in architecture.

PAUL OPPERMANN, director of planning for the city of San Francisco since 1949, will take over, on March 26, the position of director of the Northwestern Illinois Metropolitan Area Planning Commission, with headquarters in Chicago. JAMES MCCARTHY, senior city planner, has been named acting director. Oppermann's decision was based, he said, on his conviction that "the urban region, not the single independent city, is rapidly becoming the basis for our community life in this country. Chicago's is the most challenging planning job in the United States, and I want to be in on the pioneering stage of it."

Elections and Appointments

WENDELL SPACKMAN, San Francisco architect, has been named chairman of the Building Industry Conference Board. DUDLEY DEANE, consulting engineer, is vice chairman. The new urban renewal coordinator for Seattle is TALBOT WEGG, architect and planner. CAPTAIN ARTHUR I. FLAHERTY (CEC, USN, ret.) has been appointed executive secretary of the Board of Registration for Civil and Professional Engineers, State of California. New officers for A.I.A. chapters: SAN JOAQUIN, Robert C. Kaestner, president; William G. Hyberg, vice president; Lawrence Alexander, secretary; Edwin S. Darden, treasurer; Walter Wagner, Paul Shattuck and Allen Lew, directors. SAN DIEGO, Raymond Lee Eggers, president; William F. Wilmurt, vice president; Lloyd Ruocco, secretary; Delmar Mitchell, treasurer; John Deardorf, Richard G. Wheeler and Sim Bruce Richards, directors.

New Addresses, New Firms

VICTOR ABRAHAMSON, architect, has moved his offices to 40 Santa Rosa Avenue, Sausalito, Calif. JOHN A. BLUME & ASSOCIATES, consulting structural engineers, have moved to 612 Howard Street, San Francisco. ECKBO, ROYSTON & WILLIAMS, landscape architects and planning consultants, have moved San Francisco offices to 1136 Clement Street.

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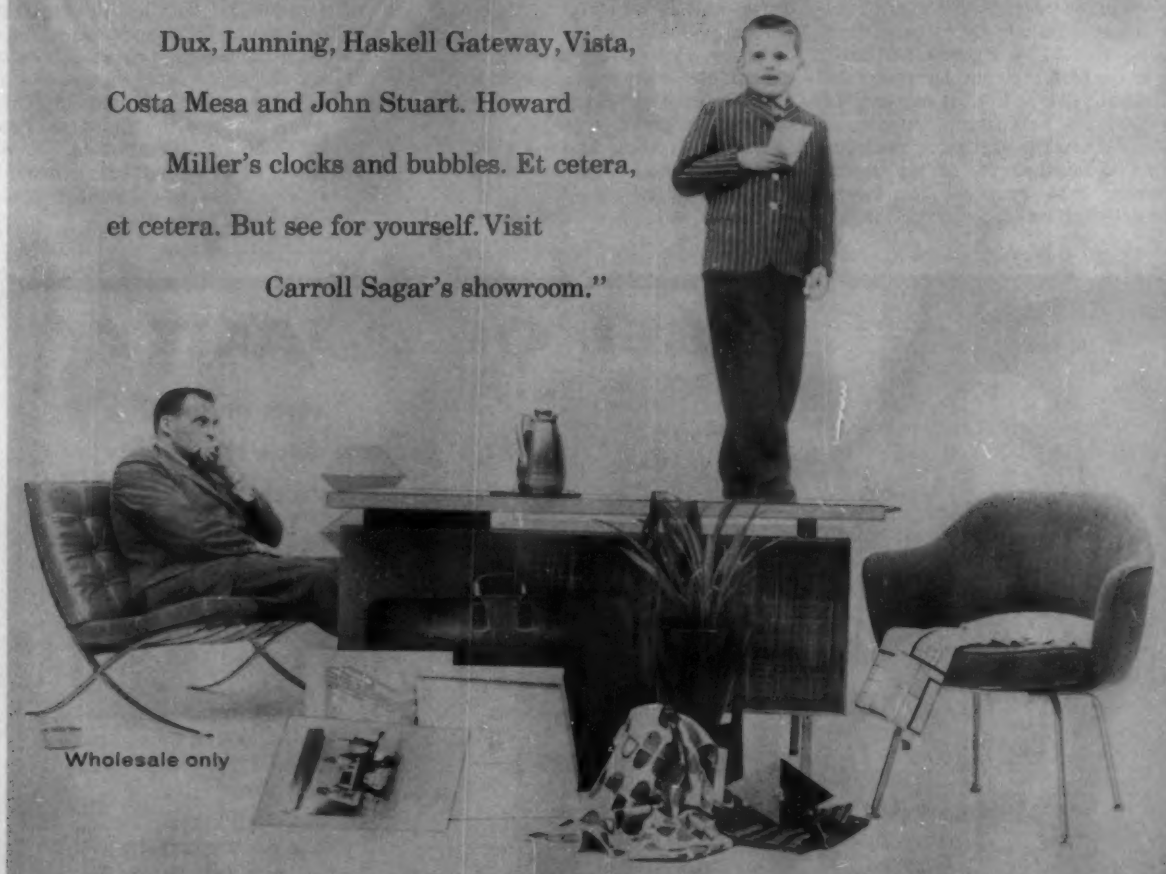

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Architects Selected

continued from page 48-10

Services Administration, Housing and Home Finance Agency, Departments of Commerce, Defense, Justice, Treasury, and Health, Education and Welfare.

The government has an option to extend the design contract to provide for working drawings and specifications when the preliminary designs—expected to be ready within 28 weeks of the contract award date of February 3, 1958—are approved.

"Shoppers' Paradise" Evaluated

The 10-day full-scale experiment to test four basic objectives which a small town in Oregon tried out as a possible remedy for its "downtown blues" was a success as far as 77 per cent of the shoppers and 78 per cent of the merchants on the mall were concerned, but only 36 per cent of the merchants located out of the mall area agreed. As for a permanent mall, 52 per cent of the merchants on the mall would like it but 90 per cent of those off the mall would oppose it.

These were the statistics gathered from a postcard survey of "Shoppers' Paradise," the proposal for downtown revitalization which Springfield, Ore., tried last August, gaining national attention thereby and giving hope to cities whose downtown merchants have experienced an alarming drop in trade. (See Western Section, November 1957, pp 48-2, 3.) The idea for "Shoppers' Paradise" came from Donald H. Lutes, architect and planner, a resident of Springfield, and sponsorship was enthusiastically given it by the Springfield Chamber of Commerce, with the city of Springfield and the Oregon State Highway Commission cooperating. John Amundson, architect-planner, Wallace Ruff, landscape architect, and Andrew Vincent, painter, were consultants.

Conclusions reached by the Shoppers' Paradise Organization after studying the postcard answers are that the shopper is ready to accept the necessity for the by-passing of through vehicular traffic, but that the merchant is reluctant to do so; that although merchants object to the idea of eliminating parking at their front doors, shoppers appreciate the convenience of easily used parking spaces within a reasonable walking distance of the shopping area; that while the mall organization of shopping areas provides flexibility of pedestrian shopper movement, the mall's physical limits are determined by how far shoppers will walk; and that it takes only a few simple devices to make the shopping atmosphere of a downtown area more interesting and more pleasant, and so to change the buying habits of its patrons.

Cost of putting on the 10-day experiment came to $2900 which went for construction of scaffolding, street signs (designed by the architect, and accepted favorably by the Highway Commission), street marking and landscaping, with an additional $600 which was used for exhibits and attractions. The individual merchants did advertising in conformance with the theme of the experiment. This fund of $3500 was raised by the finance committee, with over 70 per cent of the business firms in the area contributing to it.

Over 150 cities and organizations have requested detailed information on the Springfield experiment. As a result, a handsomely printed booklet telling the story of Shoppers' Paradise has been published by the City of Springfield and the Shoppers' Paradise Publicity Committee. It is available, at $1.00 per copy, through either the City or the Springfield Chamber of Commerce.

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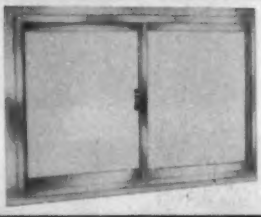

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Art: "the shadow of humanity"

How light the line between one form of art and another when considered in the light of a definition such as Henry James', quoted above! But how heavy and wide when assessed in legal tender, so often the only measure used. In their most pessimistic moments, artists must agree with the 17th Century's John Ray that "beauty is potent, but money is omnipotent."

Lately, in the West at least, art has had some moments rather more optimistic than otherwise. For instance, Seattle's Art Commission under its architect chairman, Robert L. Durham, will have the chance to cooperate with the architects for the new main library, now in the working drawing stage, in planning for an integration of the arts in the building. True, the Art Commission had hoped that more would be allotted for "the allied arts" than the one-tenth of one per cent which was finally decided upon, but this is a step forward.

Although the opportunity to cooperate was initially sought by the Commission, it was voluntarily given by the library board. The architects, Jones and Bindon and Dekker, Christenson and Kitchin, also voluntarily asked for the Commission's advice.

In Denver, too, the artist came in for some healthy discussion when a panel met recently to probe "Why doesn't Denver support its artists?" with three artists to put their case.

But Portland's Art Museum integrated the whole problem by putting on an exhibition which it called "The Artist in Architecture." The show was organized by the local Artists Equity group, and it incorporated examples of art in architecture in a variety of Portland buildings. Churches, once the artist's only hope for a chance to integrate his art form with another, now appear to have become but one of many building types in which art and architecture complement each other. Office building and private home, public building and apartment house—these are the new opportunities for incorporating art in the form of screens, mosaic panels, wall paper, murals, sculpture reliefs and free-standing sculpture, fountains and grilles, and playground equipment.

And while all this was going on in other parts of the West, architect Albert Kahn's daughter, Mrs. Harry Lewis Winston, and her husband were in San Francisco to tell how they made their collection of contemporary art.

"When we buy a painting," said Mrs. Winston, "it is like having a human being come into the house."

How large a part humanity must play in every work of art to make possible such a feeling! And how much more true of the work of architecture, which has its source in humanity, its use in humanity, and in the end outlasts and must speak for us all.

The times are right

The times are right for architecture, says Dr. Max Sullivan, director of the Portland Art Museum, bolstering his thesis with the idea that architecture, besides being esthetic and individual, and using technology and mass-production, is the one art "that requires a skilled and prospering society."

But what is the architect doing in this favorable climate? The curtain wall, said Dr. Sullivan, is producing "the greatest revolution in architectural style that this country has probably ever seen. Architects will either give us a very monotonous scene, or a handsome conformity. Either way, it will change the picture of America."

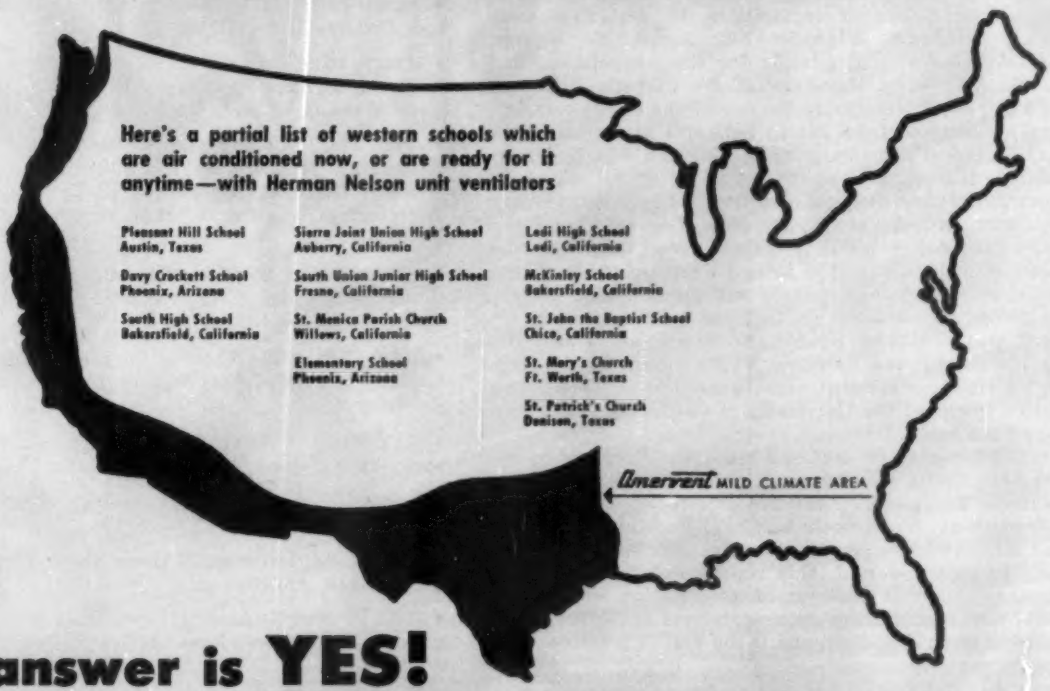
Another critical look at what architecture is doing with the new technology was given by engineer Mario Salvadori when he visited San Francisco recently. Too many "wrong" structures are being designed in the guise of thin-shells—but they are not true thin shells. When a thin shell is true it is structurally correct as well as beautiful. And Salvadori suggests that the emphasis has been put on search for form rather than on form which is inevitable because of the structure. But there are no short cuts to designing thin shells—they demand their share of "blood, sweat and tears." Which means, in terms we know, that to design a true thin shell, one must go through the full range of the creative process, the most demanding process and the only fully satisfying one in life.

City without bounds

What is "Interurbia"? Never heard of it? That's just because you happen to live in the West. But if you live anywhere between San Diego and Santa Barbara, you don't have to hear of it—you live *in* it. Interurbia is a common enough phenomenon in the East; out here we have grown, but we had space in which to grow. But it won't last forever. The times are not nearly so right for architects as they are for sprawl. What are *you* doing about it?

E. K. T.

Will the school you are planning *ever* need AIR CONDITIONING?



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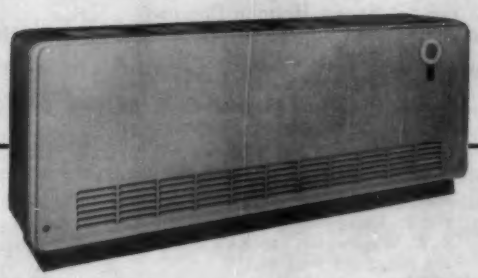

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Good Reading For Westerners

LIVING IN THE SUN. *Volume 1. The Association for Applied Energy, 3424 North Central Avenue, Phoenix, Ariz., 1958: $6.00.* The 60 plans and sketches shown in this book were selected from the entries in the 1957 international architectural competition to design a solar heated residence. A preface by James M. Hunter, F.A.I.A., professional advisor for the competition, and an introduction by the Association's executive director, John I. Yellott, describing the conditions of the competition, a statement from Pietro Belluschi, chairman of the jury, technical notes on solar heating and a bibliography conclude the volume.

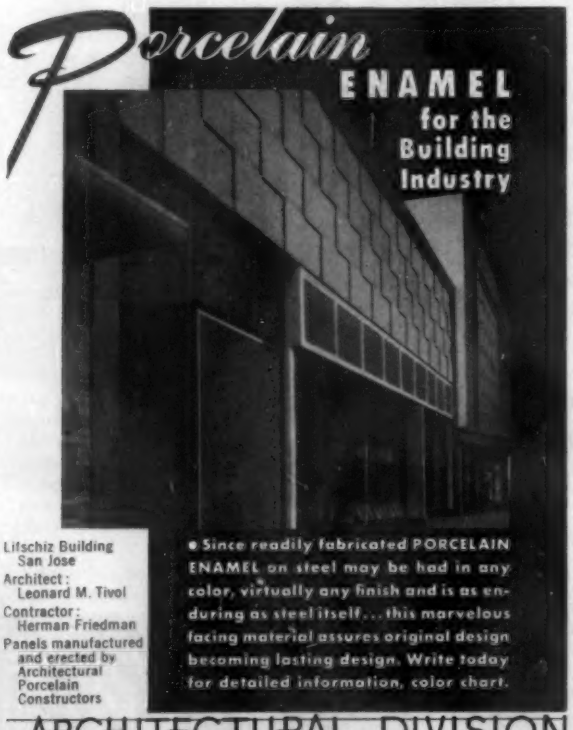
PROCEEDINGS OF THE WORLD CONFERENCE ON PRESTRESSED CONCRETE, INC., *Room 216, 417 Market Street, San Francisco: $10.00.* Besides all 38 papers presented at the conference, held in July 1957 in San Francisco, this volume includes 26 additional papers not given orally. Charts, tables and illustrations are included.

FORM AND FUNCTION. *By Horatio Greenough. University of California Press, Berkeley: $1.50.* A reissue of Greenough's classic statement (first published in 1852), this edition is one of the University of California Press' new paperback books.

A SPECIAL REPORT ON BUILT-UP ROOFINGS. *Prepared by the Northern California chapter, Construction Specifications Institute. July, 1957. Available at $.30 each, from 1429 Potrero Way, Sacramento 2, Calif.* Reprinted from the Fall issue of "The Construction Specifier," C.S.I.'s quarterly technical journal, this report was prepared by a chapter committee made up of specification writers and material manufacturers' representatives under the chairmanship of Rolf T. Retz, and is the first of a series.

Calendar of Western Events

- MARCH 8-12: Regional conference, American Association of School Administrators, and exhibition of architects' work in school field, San Francisco
- MARCH 14-15: Idaho chapter, A.I.A., annual winter meeting, Owyhee Hotel, Boise, Ida.
- MARCH 16: Closing, exhibition of modern art from collection of Mr. and Mrs. Harry Lewis Winston, San Francisco Museum of Art, Civic Center
- APRIL 11-12: Spring meeting, Society of Architectural Historians, Pacific Coast Section and, concurrently, of Western Division, Association of Collegiate Schools of Architecture, Lawrence Hall, University of Oregon, Eugene
- APRIL 27-MAY 2: Twentieth national convention, National Association of Architectural Metal Manufacturers, Shamrock Hotel, Houston, Tex.
- APRIL 27-MAY 17: "Arts of Southern California: Architecture," College of Architecture, University of California Berkeley
- MAY 26-27: Fourth Western Area Conference, sponsored by Stanford Research Institute, Vancouver, B. C.
- JUNE 2-5: Fourth annual meeting, American Nuclear Society, Los Angeles
- JUNE 12-22: Los Angeles Home Show, Pan Pacific Auditorium, Los Angeles
- JUNE 30-JULY 2: Association of Women in Architecture, national convention, Los Angeles



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WESTERN SECTION

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a Architectural File (green)
ic Industrial Construction File (blue)
lc Light Construction File (yellow)

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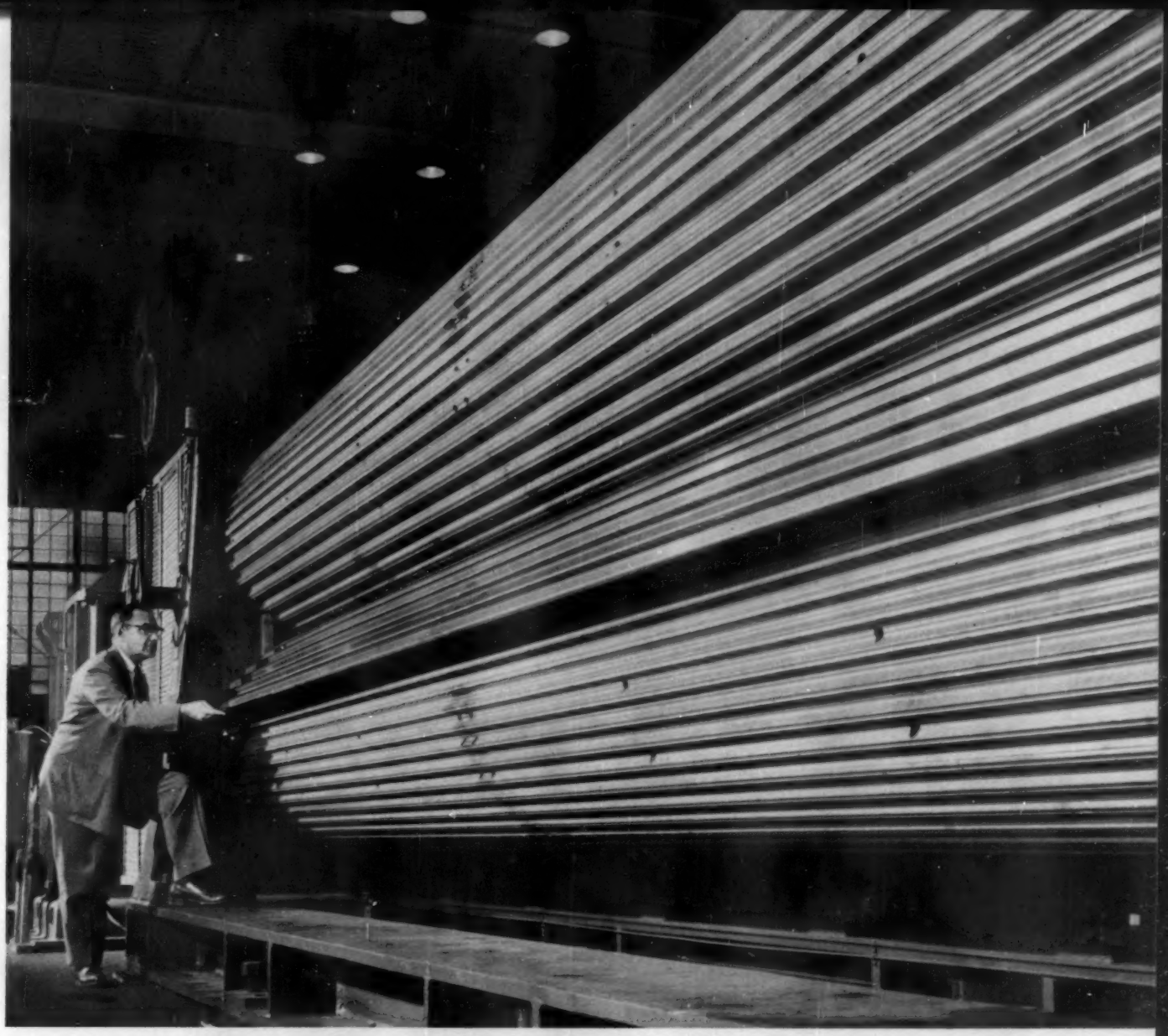
a-ic-lc	Tile-Tex Pioneer Division The Flintkote Company	48-6
	Weber Showcase & Fixture Co., Inc.	48-19

Western advertising offices: LOS ANGELES, Bob Wettstein, 672 S. Lafayette Park Pl.; PORTLAND, Bob Wettstein, 921 S. W. Washington St.; SAN FRANCISCO, Bob Wettstein, Howard Bldg., 209 Post St.



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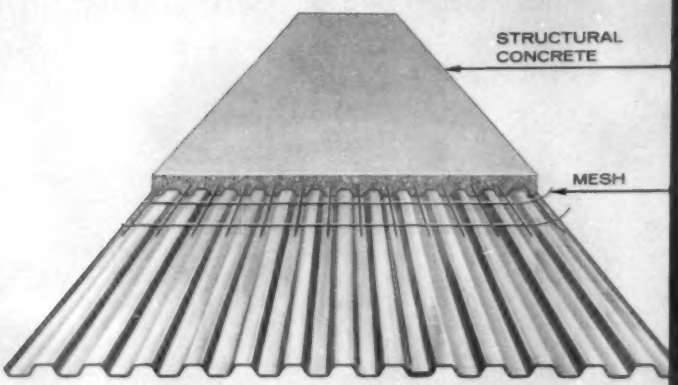

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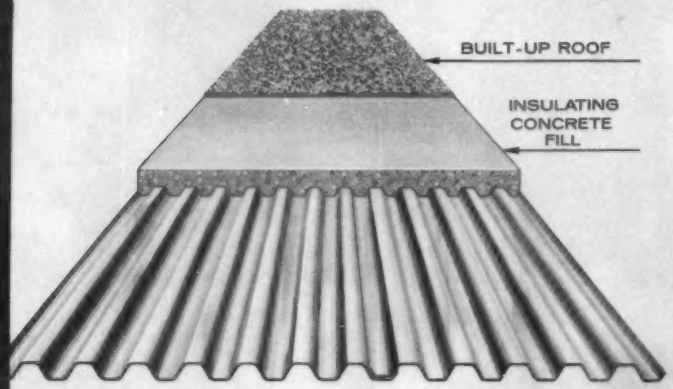
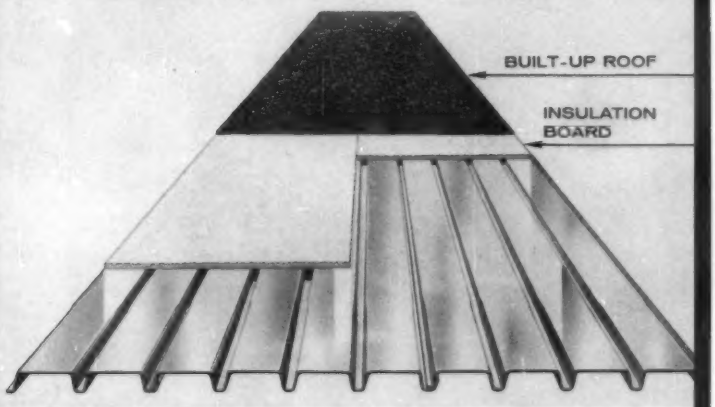


Granco TUFCOR®

Tough-temper steel sheets, galvanized for permanency. New pattern boosts strength 25%, increases effective span range from 7 feet to 8 feet with a 30-psf roof live load. Sheets are available up to 21½ feet long in 24, 22, 20 and 18 gage. Provides effective vapor barrier.

FAST, ECONOMICAL ROOFS



Granco ROOF DECK

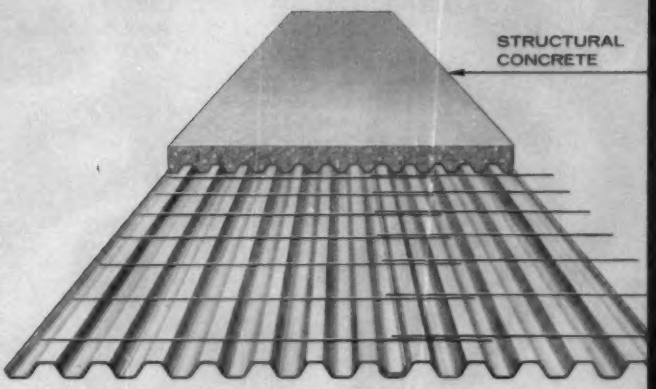
New steel sheets blanket up to 43 square feet, cover 24 inches, adapt to all roof sizes. Greater carrying capacity! Wide rib openings for easier plug welding and faster erection. New phosphate coating and flint-hard enamel finish protect deck years longer. Available in 18, 20, 22 gage.

CHECK THESE IMPORTANT

FASTER CONSTRUCTION. Sheets are up to 50% longer! Workmen can cover 50% more area *with every sheet placed!* Extra length means less lap area, fewer welds, faster jobs, lower cost. These new features come to you with no increase in Granco prices!

new product patterns and roof construction

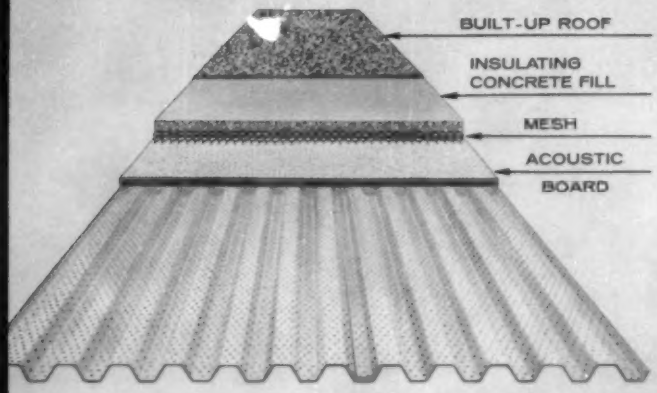
FLOOR SLABS WITH BEAMS



Granco COFAR®

High-strength, galvanized steel sheets with transverse wires welded across the tops of corrugations. New pattern increases effective span range from 14 feet to 18 feet. Available in 24, 22 and 20 gage. Cofar units integrate with Granco's E/R Cofar cells for complete electrification.

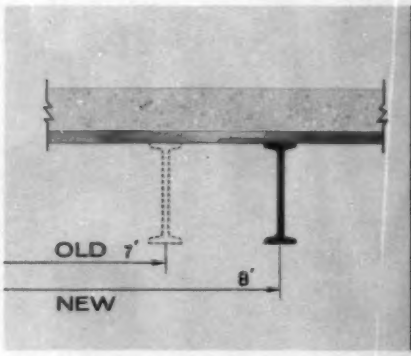
ACOUSTICAL-CEILING ROOFS

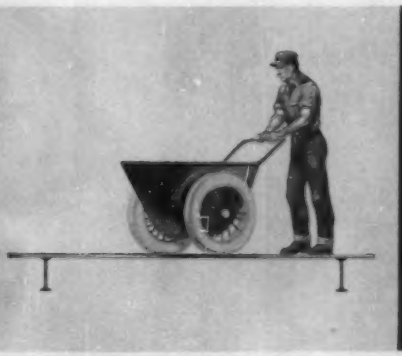


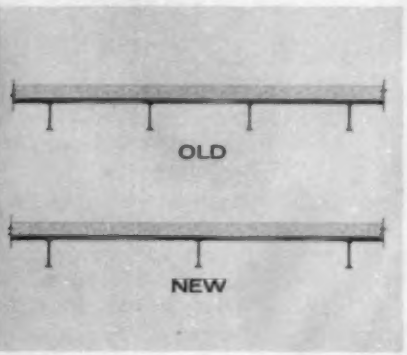
Granco STRUCTUR-ACOUSTIC

Galvanized corrugated steel sheets with an acoustic underside. New pattern increases sheet strength 25%, increases span range to 8 feet. Available in 24, 22, 20 and 18 gage. Makes possible acoustical roof system only 5 inches deep with "U" value 0.14. Entire system weighs less than 9 psf.

CONSTRUCTION BENEFITS OF GREATER SECTION LENGTH AND STRENGTH







WIDER SPANS POSSIBLE. To meet the trend in long-span construction with joists or beams, new Granco sheets make possible continuous spans for less deflection, greater strength, economy and freedom in design.

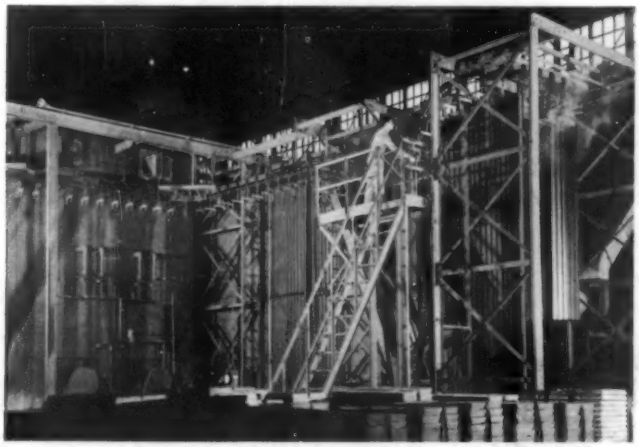
SUPPORTS MORE WEIGHT. New angular pattern increases sheet strength. Sheets support concrete buggies, welding machines, other heavy loads without buckling . . . provide safer work platforms *without shoring*.

REDUCES FRAMING COSTS. Longer sheets — continuous over several supports — cut cost of framing in multi-span construction. New Granco products help make buildings stronger yet lighter.

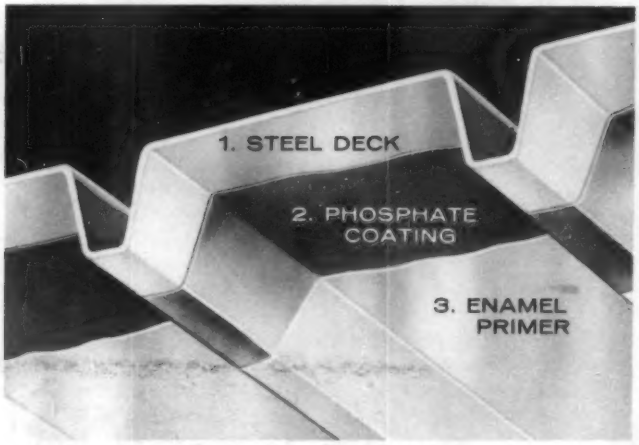
TURN THE PAGE FOR ANOTHER IMPORTANT ECONOMY FEATURE OF GRANCO ROOF DECK

New Flo-Coat Line applies rust-resistant, flint-hard paint to Granco Steel Roof Deck

Important new addition to Granco facilities is the modern Flo-Coat Paint Line that applies a tough protective coating to Granco Roof Deck. Replacing conventional dip or spray equipment still used by many manufacturers, this superior new paint line gives sheets a phosphate coating that protects base metal, prepares it for painting. Granco Roof Deck receives both a phosphate coating and primer coat of battleship grey enamel. To find the best protection against abrasion, damage and rust, Granco research engineers put *hundreds* of sample coatings through exhaustive lab tests, chose a finish that adds *years* of life to Granco Roof Deck.



IN THIS NEW PAINT LINE, enamel is "flo-coated" over Granco Roof Deck sheets. Baked on at 400° F. for 20 minutes, the resulting flint-hard finish adheres tightly, resists rough handling and chemical corrosion.



CUTAWAY SECTION of new Granco Roof Deck shows protective coatings that withstand bending, chipping, cracking and exposure to adverse weather. A finish paint coat may be field-applied, if desired.

FOR MORE FACTS ON EVERY PRODUCT IN GRANCO'S NEW LINE . . .

MAIL COUPON NOW!

FIVE FREE TECHNICAL MANUALS describe uses, specifications, physical properties, load-carrying capacities, applications and advantages of new and improved Granco products.

CHECK MANUALS YOU WANT TO RECEIVE:

- ☐ CORRUFORM AND TUFCOR FLOORS
- ☐ COFAR AND E/R COFAR FLOORS
- ☐ TUFCOR AND STRUCTUR-ACOUSTIC ROOFS
- ☐ GRANCO STEEL ROOF DECK
- ☐ GRANCO GUARD RAIL

GRANCO STEEL PRODUCTS CO.
Dept. 83, 6506 N. Broadway, St. Louis 15, Missouri

*Name*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

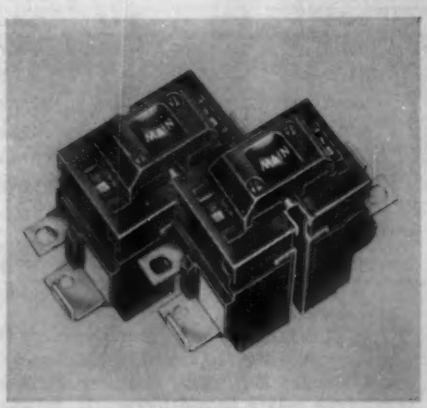
GRANCO®

GRANCO STEEL PRODUCTS COMPANY
6506 N. BROADWAY, ST. LOUIS 15, MO.

A Subsidiary of SINCE GRANITE CITY STEEL 1878 **Granite City Steel Co.**

6506 North Broadway, St. Louis 15, Missouri
EXECUTIVE OFFICES: Granite City, Illinois
Distributors in 80 Principal Cities

Pushmatic*– *welcome combination of safety and convenience*



BULLDOG DUO-GUARD PUSHMATICS are available in single-pole or 2-pole common-trip . . . come in 15, 20, 30, 40, or 50-ampere ratings. 70- or 100-amp 2-pole common-trip Pushmatics are available as factory installed units.

*Circuit breaker trademark registered by BullDog Electric Products Co.

Pushmatic breakers give the over-all circuit protection your clients want. Available in 15- to 50-ampere ratings, Duo-Guard® Pushmatics fit any BullDog Electri-Center® panel . . . safeguard branch circuits two ways. Thermal-bimetal action protects against normal overloads. Magnetic action protects against high overloads and short circuits. When a circuit is open, just a push of the breaker restores service.

Compact Electri-Centers supply needs from 4 to 42 circuits . . . meet most industrial, commercial, institutional and residential needs. Pushmatic Electri-Centers are readily available, easy to install. Check your electrical contractor or BullDog field engineer for complete details, or write BullDog Electric Products Co., Detroit 32, Mich.

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BULLDOG

BullDog Electric Products Co., Detroit 32, Mich. A Division of I-T-E Circuit Breaker Co.
BullDog Export Division: 13 East 40th St., New York 16, N.Y.
In Canada: BullDog Electric Products Co. (Canada) Ltd., 80 Clayson Rd., Toronto 15, Ont.

Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100

NEW YORK

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.6	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
Oct. 1957	320.3	309.8	337.0	349.2	344.8
Nov. 1957	320.1	309.6	336.9	349.1	344.9
Dec. 1957	319.9	309.4	336.6	348.9	344.7
	% increase over 1939				
Dec. 1957	159.0	152.8	157.5	161.5	165.0

ATLANTA

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.0	224.6	221.3	221.8	223.0
1954	219.6	219.1	233.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
Oct. 1957	242.0	239.3	251.4	255.2	258.2
Nov. 1957	243.3	239.5	251.9	255.6	258.6
Dec. 1957	242.1	239.3	251.6	255.4	258.4
	% increase over 1939				
Dec. 1957	180.5	188.0	164.6	162.2	172.9

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.0	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
Oct. 1957	292.7	284.1	297.1	308.9	306.0
Nov. 1957	292.3	283.7	296.6	308.5	305.6
Dec. 1957	296.2	286.8	302.6	315.3	310.6
	% increase over 1939				
Dec. 1957	168.5	168.0	154.9	163.2	161.0

SAN FRANCISCO

1930	90.8	86.8	100.6	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
Oct. 1957	287.3	273.8	306.9	320.4	316.4
Nov. 1957	286.9	273.4	306.4	320.0	316.0
Dec. 1957	287.6	274.4	307.0	319.9	316.0
	% increase over 1939				
Dec. 1957	172.3	176.3	161.5	162.4	171.2

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

FOR THE FASTEST GROWING SKYLINES OF THE WORLD

ARCHITECTS · BUILDERS · ENGINEERS · CONTRACTORS AND OWNERS SPECIFY

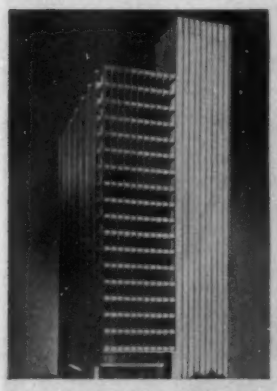
RICHMOND

THE FASTEST GROWING NAME IN PLUMBING FIXTURES

Distinguished both for variety of handsome designs and wide color range, Richmond Plumbing Fixtures are more and more the choice for engineered quality and ageless styling . . . whether the building is for industry, commerce, multiple residence or single-family living.

Shown here are a few of the outstanding buildings which include, among other quality specifications, the name RICHMOND. Each is impressive testimony to the versatility of the Richmond line.

RICHMOND PLUMBING FIXTURES DIVISION RHEEM MANUFACTURING COMPANY, METUCHEN, NEW JERSEY



Inland Steel Building, Chicago, Ill.
Architect—Skidmore, Owings & Merrill
Builder—Turner Construction Co.
Plumbing Contractor—Economy Plbg. & Htg. Co., Inc.
Plumbing Wholesaler—Warren Barr Supply Co.

375 Park Avenue, New York City
Architects—Mies van der Rohe and Philip Johnson
Associate Architects—Kahn and Jacobs
Builder—George A. Fuller Company
Consulting Eng.—Jaros, Baum & Bolles
Plumbing Contr.—Eugene Duklauer, Inc.
Plumbing Wholesaler—Glauber, Inc.

Tishman Building, New York City
Architect—Carson and Lundin
Builder—Tishman Realty and Construction Co., Inc.
Consulting Engineer—Cosentini Assoc.
Plumbing Contr.—John Wall Plbg. Corp.
Plumbing Wholesaler—Smolka Co., Inc.

575 Lexington Avenue, N. Y. C.
Architects—Sylvan Bien, Robert L. Bien
Builder—Sam Minskoff & Sons, Inc.
Mechanical Engineer—Sears & Kopf
Plumbing Contr.—Fein-Schlossberg, Inc.
Plumbing Wholesaler—Glauber, Inc.

Canada House, New York City
Architect—Eggers and Higgins
Gen'l Contr.—Walsh Constr. Co., Inc.
Mech. Eng.—Syska & Hennessy, Inc.
Plumbing Contr.—C. H. Cronin, Inc.
Plumbing Wholesaler—New York Plumbers Specialty Co., Inc.

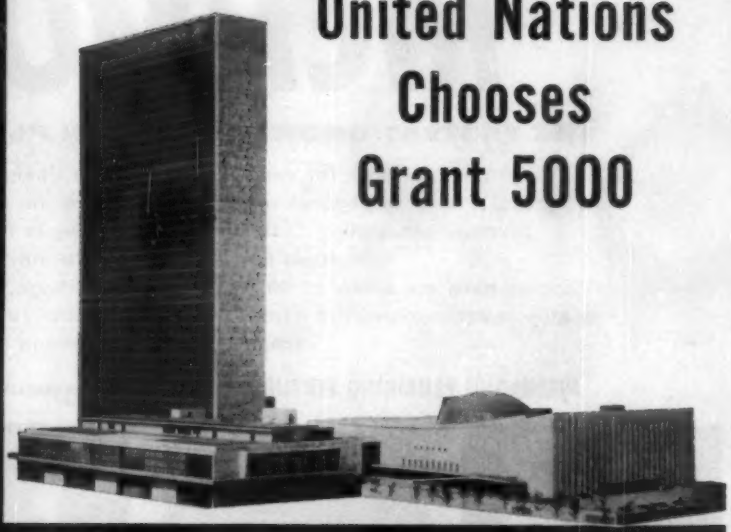
Harrison Park, East Orange, N. J.
Architect—Romolo Bottelli
Builder—Harrison Park Constr. Co.
Mechanical Engineer—Edmund Assoc.
Plumbing Contr.—Paramount Plbg. & Htg. Co.
Plumbing Wholesaler—Harlem Plbg. Supply Co., Inc.

Roosevelt Raceway, Westbury, N. Y.
Architect—Arthur Froehlich & Assoc.
Builder—George A. Fuller Company
Structural Engineer—Henry M. Layne
Plumbing Contr.—M. J. Harmoney Corp.
Plumbing Wholesaler—Smolka Co., Inc.

400 Park Avenue, New York City
Architect—Emery Roth & Sons
Builder—Fisher Brothers
Mechanical Engineer—Henry B. Oehrig
Plumbing Contractor—Paramount Plbg. & Htg. Co.
Plumbing Wholesaler—Harlem Plbg. Supply Co., Inc.

RICHMOND CREATES THE FINEST BATHROOM AND KITCHEN PLUMBING FIXTURES • HEATING EQUIPMENT
OTHER RHEEM PRODUCTS: WATER HEATERS • WATER SOFTENERS • WEDGEWOOD GAS RANGES • STEEL CONTAINERS

United Nations Chooses Grant 5000



Building:	UNITED NATIONS
Architect:	HARRISON & ABROMOVITZ PLANNING OFFICE
General Contractors:	GEORGE A. FULLER CONSTRUCTION CO. WALSH & SLATTERY
Contract Hardware:	LOCAL FIRMS
Grant Products Used:	5000, 1200, 1600 HARDWARE

Why did they pick Grant 5000?

The answer is easy.

There is no better sliding door hardware made than Grant 5000 Continuous Ball Bearing Hangers . . . And there is no manufacturer, other than Grant, who has been supplying sliding hardware of the highest order to Architects for over 60 years. Grant hardware can be depended upon for greatest service, most efficient operation and quality construction.

The 5000 line can support doors up to 300 lbs. (And over on special request.) Its motion is so smooth and so easy that no other hardware can compare. It has been specified into many of the nation's leading buildings because Architects have found it without equal.

How can you find out more about Grant?

Write for your copy of the award-winning Grant Catalog.

GRANT PULLEY & HARDWARE CORPORATION

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SLIDING DOOR HARDWARE • FOLDING DOORS • DRAWER SLIDES • DRAPERY HARDWARE • TUB ENCLOSURES • PULLS • POCKET FRAMES • SPECIAL SLIDING HARDWARE

Built to Last. Aerial view of Veterans Administration Neuropsychiatric Hospital near Pittsburgh, Pa. All sixteen buildings have Monel nickel-copper alloy flashings and drainage systems. Architects-Engineers: Prack & Prack, Alfred Hopkins & Associates, Bowers & Barbalat. Hospital Contractor: James McHugh Sons, Inc. Sheet Metal Work: Miller & Meyer.

Why the big trend to light-gauge Monel for so many of today's new buildings?

More and more architects are writing three little words into their specifications these days.

The words are "Monel Roofing Sheet." And it's easy to explain *why*.

Monel* nickel-copper alloy is strong and tough. *Stronger* and *tougher*, in fact, than any other non-ferrous roofing metal. It is highly resistant to atmospheric corrosion.

Monel alloy also resists wear and abrasion. Has an average coefficient of expansion, so is less likely to crack under extreme temperature changes.

Because of this combination of properties, you can often specify lighter gauges than are commonly used. And with lighter gauges, of course, the cost of roofing metal per square foot drops measurably!

Another feature — Monel alloy presents no fabrication or installation problems to the experienced roofer. The same tools and techniques employed with other roofing metals work fine with Monel alloy!

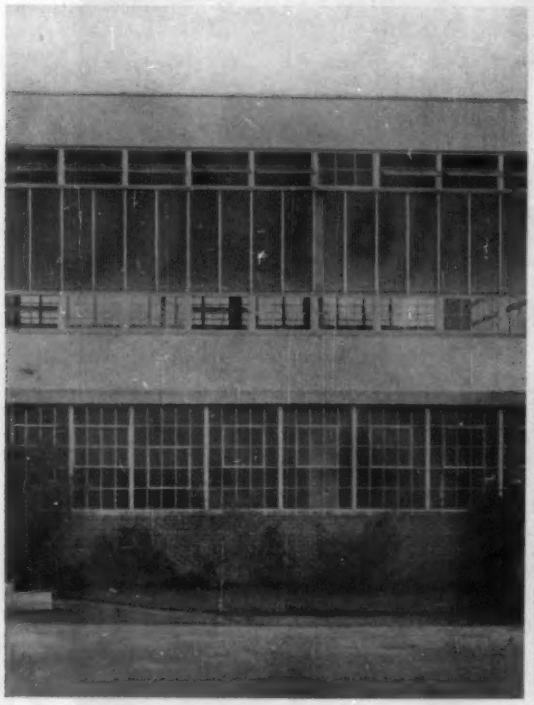
So write Monel into every job. For schools . . . hotels . . . factories . . . office buildings . . . hospitals and all other institutions. And don't hesitate to ask for help or advice on a specific job. The Monel Roofing Sheet Distributor in your city is listed under "Nickel" in the "Yellow Pages" of your telephone directory. Call him. Or write to us.

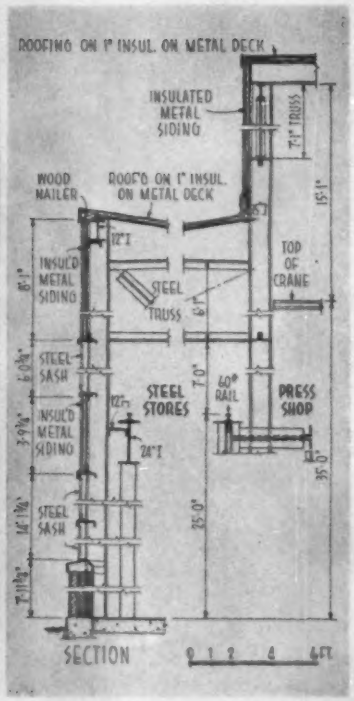
*Registered trademark

The International Nickel Company, Inc.
67 Wall Street New York 5, N. Y.

No Problems. Good workmanship is as easy to achieve in corrosion-resisting Monel alloy as it is in any other roofing metal. Neither fabrication nor installation of Monel sheet metal roofing requires special tools or techniques.

MONEL ROOFING
FOR THE LIFE OF THE BUILDING





Detail, north façade, Electrolux Corp., Old Greenwich, Conn. (1951); Antonin Raymond & L. L. Rado, architects-engineers. Section, Budd Co., Chase Plant, Gary, Ind. (1952); Giffels & Vallet, Inc., L. Rossetti, architect and engineers.

Building for Industry. *An Architectural Record Book. F. W. Dodge Corp. (New York), 1957. 309 pp., illus. $9.75.*

Modern Factories Analyzed

By K. K. Stowell

Any, and every, architect and engineer interested in building for industry can find interesting and most useful ideas as well as data and details in these pages. Whether he is tackling his first commission in this field, or is an old hand familiar with the problems of this type of work, he is sure to profit, for it is a compendium of carefully selected projects illustrating current trends and successful solutions to the problems involved in the designing of production facilities.

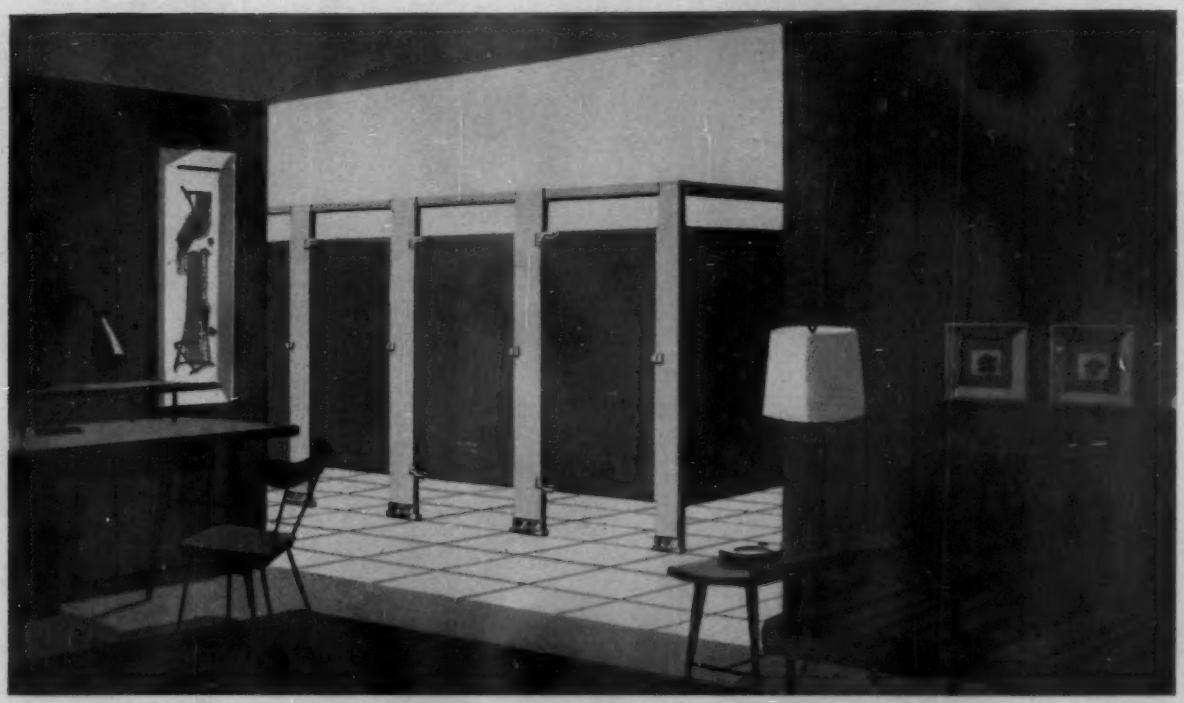
The factors that influence factory design have changed and are rapidly changing, factors such as tax accounting, public relations and labor relations, automatic machinery and controls, materials flow and handling, storage and warehousing, safety devices, communication systems, optimum light, air, temperature and sound control—all have taken on new degrees of emphasis. New materials as well as new processes affect the designer's work, and their use is shown in the profusion of clear photographs, plans, sections, and details from working drawings.

The "Contents" is divided arbitrarily for convenience into seven categories: 1. Design Principles; 2. Warehousing; 3. Light Industry; 4. Consumer Goods; 5. Manufacturing Laboratories; 6. Utilities and Service Industries; and 7. Heavy Industry. Actually, the usefulness of the volume runs across and through all such classifications—for ideas of structure,

continued on page 62

CUTLER Toilet Compartments

A NEW PERSPECTIVE ON QUALITY . . AT A COMPETITIVE PRICE



WHAT'S YOUR CONCEPT OF QUALITY in toilet partition construction? Quality Materials? Workmanship? Styling? Examine Cutler Toilet Partitions from any critical point of view: rigidity, durability, adaptability, ease of assembly, color finishes, corrosion resistance, hardware and fittings, and we think you'll agree they provide a new perspective on quality *at a competitive price.*

HOW CAN CUTLER METAL DO IT? Cutler Metal Products Company was founded and has been built upon the ideal of integrity in product design, in workmanship, in service. Over 40 years of metal engineering know-how goes into the construction of Cutler Toilet Partitions, know-how that is serving such outstanding leaders of U.S. Industry today as RCA, CBS, G-E, Westinghouse, Yale & Towne, Ingersoll-Rand, and many others.

RESULT: If you're interested in the maximum in quality at a price that meets your needs specify *Cutler Toilet Partitions* — there are none finer available today. Models for every type of installation. Complete engineering advisory service. Immediate and safe delivery to any job-site in the U.S.A. Catalog in Sweet's Architectural file or yours for the asking. Complete specification sheets available for your use.

WRITE Building Products Division CM CUTLER METAL PRODUCTS CO.
1026 LINE STREET, CAMDEN 3, NEW JERSEY

FOR EXTRA QUIET, UNDERFOOT COMFORT,

This cross-section photograph shows how the layer of foam in Armstrong Cushion-Eze Underlayment adds extra "give" to resilient floors . . . makes them luxuriously quiet and comfortable underfoot.

AND EASE OF MAINTENANCE

the flooring spec: Armstrong Floors
(Tile or Sheet Form)

with new CUSHION-EZE FOAM UNDERLAYMENT

Here's a new product developed by Armstrong that enables you to add the underfoot luxury of foam cushioning to resilient floors—both sheet and tile form. Cushion-Eze Underlayment is a thick springy layer of foam bonded to felt. It gives resilient floors unusual comfort and quiet, as well as simplifying maintenance. You can specify it with Armstrong floors of Linoleum . . . Linoleum Tile . . . inlaid vinyl sheet Corlon . . . and Linotile. The results are revolutionary.

EXTRA QUIET

Cushion-Eze Underlayment lets the flooring surface "give" gently underfoot. This cushioning action greatly reduces the sound of footsteps, rolling carts and equipment, and dropped objects. In residential and other light construction, it also helps sound condition interiors by reducing noise transmitted through the floor and ceiling to areas below.

EXTRA COMFORT

The springiness of Armstrong floors with this new underlayment luxuriously cushions every footstep. Intriguingly comfortable and relaxing, resilient floors with Cushion-Eze Underlayment effectively reduce fatigue for people on their feet all day.

EXTRA EASE OF MAINTENANCE

The accented resiliency of floors with Cushion-Eze Underlayment helps prevent dirt and grit from being ground into flooring surfaces. Thus, resilient floors become easier to clean than ever, more resistant to scratches and marring.

EXTRA EASE OF INSTALLATION

Very light and flexible, Cushion-Eze Underlayment can be easily and quickly installed. It can be used over almost every kind of suspended subfloor. The foam construction absorbs floor-board movement and conceals minor subfloor irregularities.

FOR REMODELING PROJECTS

Cushion-Eze Underlayment can be used right over most old resilient floors—an important factor in residential and commercial remodeling. It makes replacing resilient floors faster, less costly and inconvenient than by traditional methods of ripping up the old floor, sanding the subfloor, or nailing down hardboard.

COST

The use of Cushion-Eze Underlayment adds relatively little to the cost of the resilient floor installation. For its extra advantages—increased comfort and quietness, lower maintenance costs—it's an exceptional value. In remodeling, it can mean a real saving where the old resilient flooring need not be removed.

For free samples of Cushion-Eze Underlayment, complete specifications and other relevant data, call the Armstrong Architectural-Builder Consultant at the nearest Armstrong District Office. Or write direct to Armstrong Cork Company, 1403 Rock Street, Lancaster, Pa. Armstrong Architectural-Builder Consultants are at your service to help you select the resilient floors best suited to any need. Armstrong makes all types of resilient floors, so "ABC" Consultants can make unbiased recommendations. And they can call in the Armstrong Bureau of Interior Decoration for design assistance; the Research and Development Center on technical problems.

Armstrong FLOORS

GREENFIELD'S RESTAURANT, Birmingham, Michigan
Architect—Theodore Rogvoy

CUSTOM-BILT BY SOUTHERN

Food service equipment designed, engineered, fabricated and installed in any type operation, expertly fitted to available space. You can depend on thorough cooperation by your Southern Dealer, from initial analysis of your food service problems through complete installation and reliable maintenance for the years to come. Get expert help with your next kitchen equipment problem or layout—call your "Custom-Bilt by Southern" dealer, or write Southern Equipment Company, 4550 Gustine Ave., St. Louis 16, Mo.

84 National Award Winning Installations

SOUTHERN EQUIPMENT COMPANY

"CUSTOM-BILT BY SOUTHERN" DEALERS: **ALABAMA,** BIRMINGHAM—Vulcan Equip. & Supply Co.; MOBILE—Mobile Fixture Co. **ARKANSAS,** LITTLE ROCK—Krebs Bros. Supply Co. **FLORIDA,** DAYTONA BEACH—Ward Morgan Co.; JACKSONVILLE—W. H. Morgan Co.; MIAMI—J. Conkle, Inc.; ORLANDO—Turner-Haack Co.; ST. PETERSBURG—Staff Hotel Supply Co.; TAMPA—Food Service Equip. & Engr. Corp. **GEORGIA,** ATLANTA—Whitlock Dobbs, Inc. **ILLINOIS,** PEORIA—Hertzel's Equip. Co. **INDIANA,** EVANSVILLE—Weber Equip. Co.; INDIANAPOLIS, MARION—National Chins & Equip. Corp. **IOWA,** DES MOINES—Bolton & Hay. **KENTUCKY,** LEXINGTON—Heilbron-Matthews Co. **LOUISIANA,** NEW ORLEANS—J. S. Waterman Co., Inc.; SHREVEPORT—Buckelew Hdwe. Co. **MICHIGAN,** BAY CITY—Kirchman Bros. Co.; DETROIT—A. J. Marshall Co. **MINNESOTA,** MINNEAPOLIS—Aslesen Co., Joesting & Schilling Co. **MISSOURI,** KANSAS CITY—Greenwood's Inc.; ST. LOUIS—Southern Equipment Co. **MONTANA,** BILLINGS—Northwest Fixture Co. **NEBRASKA,** OMAHA—Buller Fixture Co. **NEW YORK,** ALBANY—Lewis Equip. Co. **NORTH CAROLINA,** ASHEVILLE—Asheville Showcase & Fixture Co.; CHARLOTTE—Hood-Gardner Hotel Supply Corp. **NORTH DAKOTA,** FARGO—Fargo Food & Equip. Co. **OHIO,** CINCINNATI—H. Lauber & Co.; CLEVELAND—S. S. Kemp Co.; COLUMBUS—General Hotel Supply; TOLEDO—Rowland Equip. Co.; YOUNGSTOWN—W. C. Zabel Co. **OKLAHOMA,** TULSA—Goodner Van Co. **PENNSYLVANIA,** ERIE—A. F. Schultz Co. **SOUTH CAROLINA,** GREENVILLE—Food Equipment Co. **TENNESSEE,** CHATTANOOGA—Mountain City Stove Co.; KNOXVILLE—Scruggs, Inc.; MEMPHIS—House-Bond Co.; NASHVILLE—McKay Cameron Co. **TEXAS,** CORPUS CHRISTI—Southwestern Hotel Supply, Inc.; SAN ANTONIO—Southwestern Hotel Supply, Inc. **UTAH,** SALT LAKE CITY—Restaurant & Store Equip. Co. **VIRGINIA,** RICHMOND—Ezekiel & Veilman Co. **WEST VIRGINIA,** CLARKSBURG—Parson-Souders Co. **WISCONSIN,** MILWAUKEE—S. J. Casper Co. **CUBA,** HAVANA—Equipos de Bar y Cafeteria, S. A. 14

Required Reading

Continued from page 58

or lighting, or finish materials, or air conditioning, or fenestration, or whatever, can be found in each and all divisions. Ideas from one category can be adopted or adapted to the problems in hand, and the prime function of the book is the presentation of successful advanced ideas in designing for industry. The excellent index helps find specific subjects, but cannot possibly be cross-referenced to cover all illustrations of such subjects as trusses, roofs, panels, lighting methods, etc., etc. Only by thumbing through the pages can one realize the scope and variety of the suggestions offered by the many outstanding case histories presented.

The articles by men who have been "through the mill" are grist to anyone who would understand the current trends, the reasons for their importance, and the needs of the future. One will gain not only an understanding of problems involved, but the what, where, and how of current solutions regarding employee facilities, cafeterias, materials handling, first aid, color, electrical systems, air cooling, lighting, warehousing, docking facilities, concrete structures, power plants, etc., all well illustrated with photographs and diagrams.

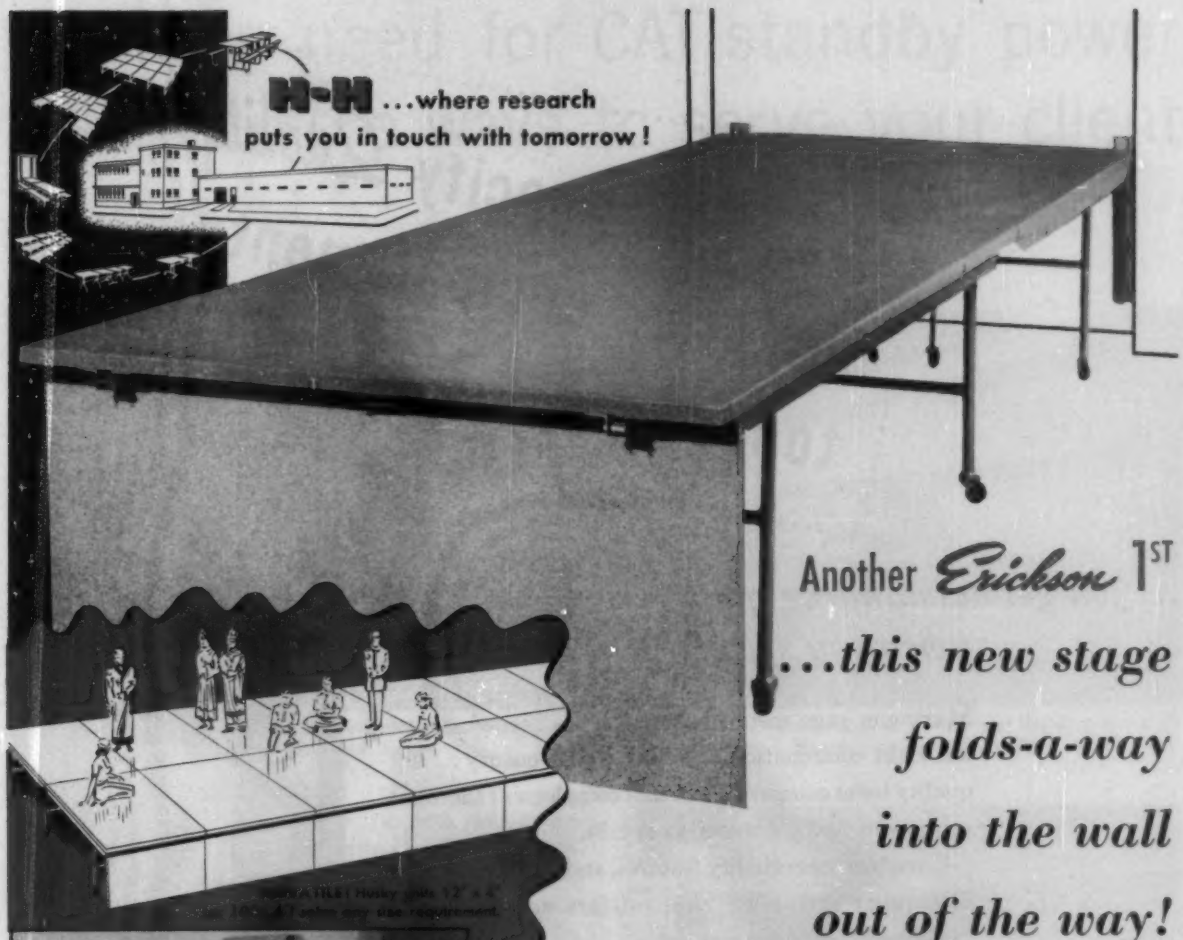
With such a wealth of ideas, suggestions, and details spread so attractively on these pages it may seem greedy to ask for more, yet many a reader would be grateful for more explicit captions. "White space" makes for attractive page layouts, but captions giving much more pertinent data would be welcome—colors, materials, sizes, functions, not discernible from the photographs. And sometimes dimensions are lacking, even graphic scales. But for the most part they are there, and the illustrations are clear, luminous, and illuminating to those in search of stimulating ideas and interesting advances in designing production facilities. This is a book that no one involved in providing such facilities can afford to be without.

The Joy of Architecture

Ralph Walker, Architect. *By Ralph Walker. Henahan House (461 Eighth Avenue, New York), 1957. 259 pp., illus. $25.00.*

It is unfortunate that Mr. Walker's professional autobiography has been published in a limited, expensive edi-

(continued on page 380)



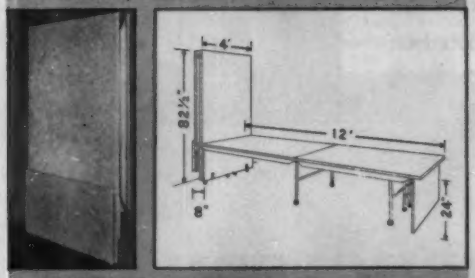
Another *Erickson* 1ST

...this new stage folds-a-way into the wall out of the way!

This new stage unfolds out of the wall in seconds . . . ready for use. When not needed this new stage quickly folds-a-way . . . out of the way . . . giving you use of *all* the floor space in your gym or multi-use room.

Carl Bryson

AUTOMATIC! Each unit sets up by itself thanks to automatic hydraulic action!



COMPACT! Each unit folds-a-way into shallow recess only 8" deep, or may be mounted on wall. Drawing shows stage folded and unfolded.

Erickson FOLD-A-WAY PRODUCTS FOR MULTI-USE OF SPACE

HALDEMAN HOMME MFG. CO.

Dept. AR-3 2580 University Ave., St. Paul 14, Minn. • Midway 5-6465

Gentlemen:
Please send complete information on your new Erickson in-wall fold-a-way stage.

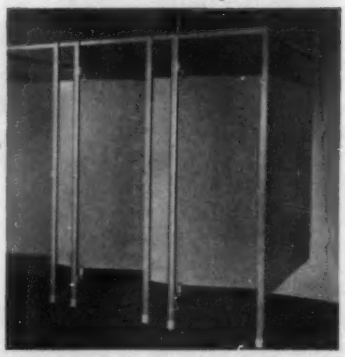
NAME_____ TITLE_____

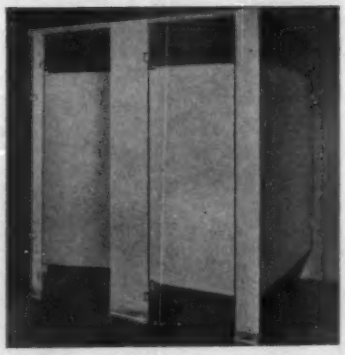
SCHOOL_____

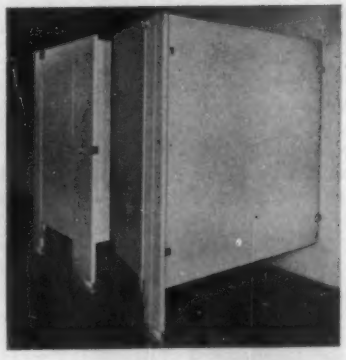
ADDRESS_____

CITY_____ STATE_____

You can specify *Quality* in toilet compartments, too . . .







. . . *you get outstanding quality when you specify NICHOLSON*

Maximum gage metals, where they're needed, assure the right combination of strength and beauty . . . for quality toilet compartments that complement the finest equipment and construction details.

Compare these quality features, and you'll know why discerning architects and builders are specifying Nicholson toilet compartments:

- **Panels and doors are 20 gage, 1" thick**
- **Pilasters are 16 or 20 gage, 1¼" thick with 6-ply fibre core**
- **Moulding is 18 gage, die-drawn**

Standard Nicholson designs range from distinctive, modern to sturdy, utility units . . . all available with attractive and lasting finishes in a variety of colors.

When you're looking for *quality* toilet compartments, without a premium price . . . look to W. H. Nicholson and Company, 12 Oregon St., Wilkes-Barre, Pa. Sales and Engineering offices in 98 principal cities.

NICHOLSON
of Wilkes-Barre

Growing need for CAT standby power means more ways to serve your client

A 175 KW Cat Electric Set takes over within seconds if commercial power fails at Baptist Memorial Hospital, Jacksonville, Fla. Emergency generator handles 35% of normal load including boiler, 12 operating rooms, 2 elevators and electric facilities for 300 beds.

Dependable CAT* Diesel Electric Sets give emergency power protection in installations *big or small.* And increased acceptance of standby power gives architects and consulting engineers a sound opportunity to serve clients better.

Many businesses need emergency power—hospitals, hotels, banks, radio and TV broadcasting facilities, processing industries, airports (including structural additions) and shopping centers.

Your client may assume that your design will include standby power. Or, he may not have considered protection against power failure and will be impressed with your foresight in designing his facility to include a Caterpillar* diesel generator. Either way, you do a more complete job by protecting your client against costly power failure.

Engine Division, Caterpillar Tractor Co., Peoria, Ill., U.S.A.

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

A dependable Cat D375 Diesel Electric Set (approximate 190 KW) serves as standby for the 100,000-watt transmitter of WWJ-TV in Detroit. If commercial power fails, the standby unit insures against costly loss of programming time.

ENGINE POWER BY CATERPILLAR

Two Cat D397 Electric Sets, capacity 600 KW, protect this mammoth refrigerated vault of Food Fair Stores in Miami. 70,000 sq. ft. of food storage serve 52 Food Fair Stores in the area. Without emergency power, disrupted power could be very costly.

Dept. AR3, Engine Division
CATERPILLAR TRACTOR CO., Peoria, Illinois, U. S. A.

Send me more information about Diesel Electric Sets for standby use in government, industry and public service applications.

☐ I am interested in learning more about these units in general.

☐ I am interested in learning how to obtain government matching funds for purchase and installation of a Cat Emergency Power Unit.

Name_____

Company_____

Address_____

City_____ Zone____ State_____

The era of the "Big

Frank Lloyd Wright employs

REVERE COPPER

in a dramatic and utilitarian manner on the roof of the I. N. HAGAN residence, Uniontown, Pa.

In residential building today architects are using the roof to do more than keep out the weather. They are designing the roof big . . . with 3′ and 4′ overhangs. This makes houses look bigger, gives them more sweeping lines, keeps down heat and cooling loads, reduces maintenance and affords better protection of window and door areas from rain and snow.

To aid the architect in producing the "big roof" effect there is no material quite like copper. Its ease of workability and fabrication, its flexibility in design, make it the ideal tool in the hands of the master designer. And its qualities of endurance have been unmatched for centuries.

A most striking example of what can be done with copper is illustrated by Frank Lloyd Wright's dramatic use of copper on the roof of the HAGAN residence. The bold scale of the unique stepped design stretches this house out to huge proportions, making it hug the terrain as though it were part of the countryside.

Construction details and application techniques used to apply the roof were discussed jointly with owner, architect, sheet metal contractor and Revere. In fact, Revere's Research Department and Technical Advisory Service made up models of the recommended details in order to make sure their recommendations were practical. These details were then discussed and accepted by the owner, architect and contractor, and working drawings prepared.

Why not call on Revere's Technical Advisory Service to assist in your specifications and planning?

COPPER • BRASS IS OF REVERE ALUMINUM

REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

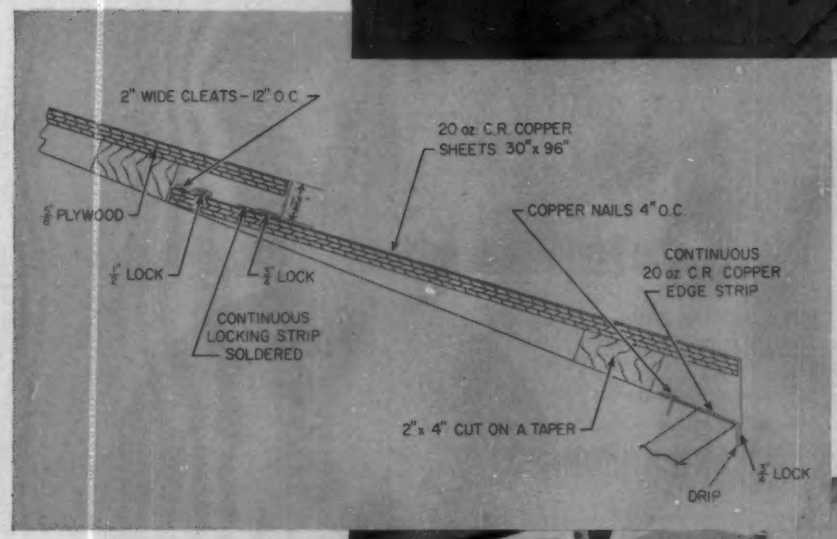
230 Park Avenue, New York 17, N. Y.

Mills: *Rome, N. Y.; Baltimore, Md.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.*

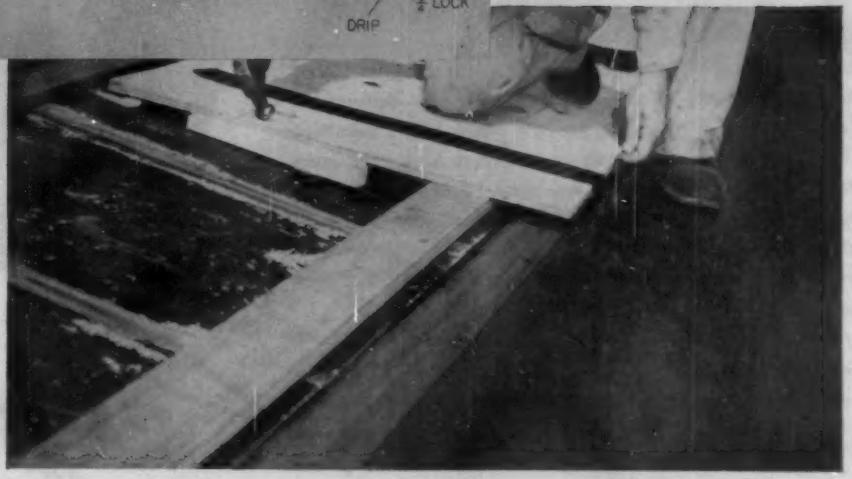
Roof" points to a new era for the

ALL-COPPER ROOF

9,000 LBS. OF 20 OZ. REVERE COLD ROLLED COPPER used on the roof were supplied to the Sheet Metal Contractor, HENRY J. COOPER COMPANY, Uniontown, Pa., by the Revere Distributor, WILLIAMS AND COMPANY, INC., Pittsburgh, Pa.

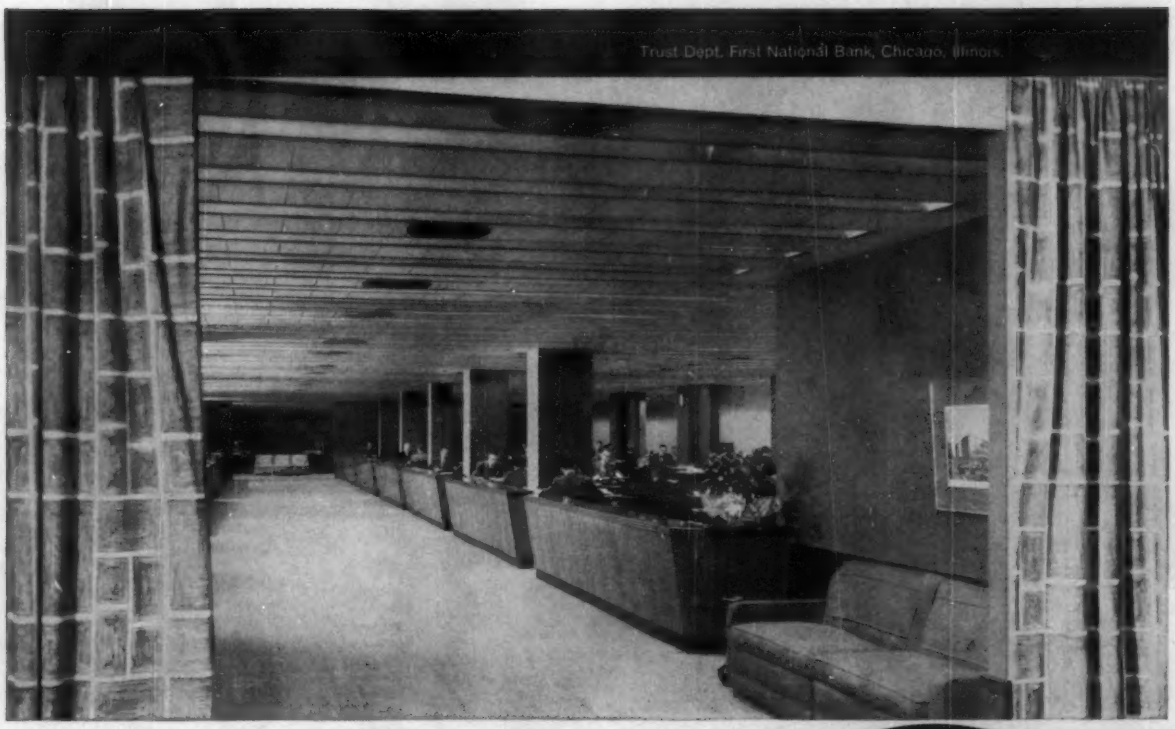

2" WIDE CLEATS - 12" O.C.
20 oz. C.R. COPPER SHEETS 30" x 96"
⅝" PLYWOOD
COPPER NAILS 4" O.C.
CONTINUOUS 20 oz. C.R. COPPER EDGE STRIP
½" LOCK
¾" LOCK
CONTINUOUS LOCKING STRIP SOLDERED
2" x 4" CUT ON A TAPER
¾" LOCK
DRIP

DETAIL SHOWING stepped design and how continuous edge strip was applied. Distance between seams was 23" to the weather using Revere 20 oz. 30" x 96" copper sheets.



CLOSE-UP SHOWING full support between horizontal battens, as suggested by Revere's Technical Advisory Service after careful study. Expansion joints were made 24' apart. General Contractor was HERMAN H. KEYS, "Master Builder," Uniontown, Pa.

Anticipation...
the heart
of creation



From the foresight of Curtis Visioneers comes the New Eye Comfort Troffer with L.B.Q.*

A 60-year history of developing new advancements in planned lighting must be respected. Not surprising, then, that credit for the exclusive Eye Comfort® Troffer with *low-brightness quality goes to Curtis visioneers. Who are the Curtis visioneers? Vision-engineers. Illuminating engineers who scientifically plan, design, manufacture and oversee installation of lighting systems that assure visual acuity, provide visual comfort, under any conditions. They are engineers not only of vision but *with* vision. The vision to pioneer with innovations like the revolutionary new Curtis Eye Comfort Alzak Aluminum Troffer . . . first luminaire to have a *true parabolic-shaped fin* of heaviest gauge aluminum—the extruded L.B.Q. louver. Result is high level illumination . . . shadowless low-brightness quality . . . wherever light is cast. Meets the demands, too, of those who specify and buy fluorescent lighting for *quality illumination—long-run* economy. Write today for the name and address of the Curtis representative in the principal city nearest you. Curtis Lighting Inc., 6135 W. 65th Street, Chicago 38, Ill. In Canada: 195 Wicksteed Ave., Toronto 17.

CURTIS EYE COMFORT ALZAK ALUMINUM
TROFFER WITH L.B.Q. LOUVER FIN.
Snap-on yoke and toggle bolts for easy application to any type ceiling. Uninterrupted wireway, *no nipples required. New shallow depth . . . maximum recessing space required only 6".

CURTIS

Visioneers in Planned Lighting®

All dark
and handsome

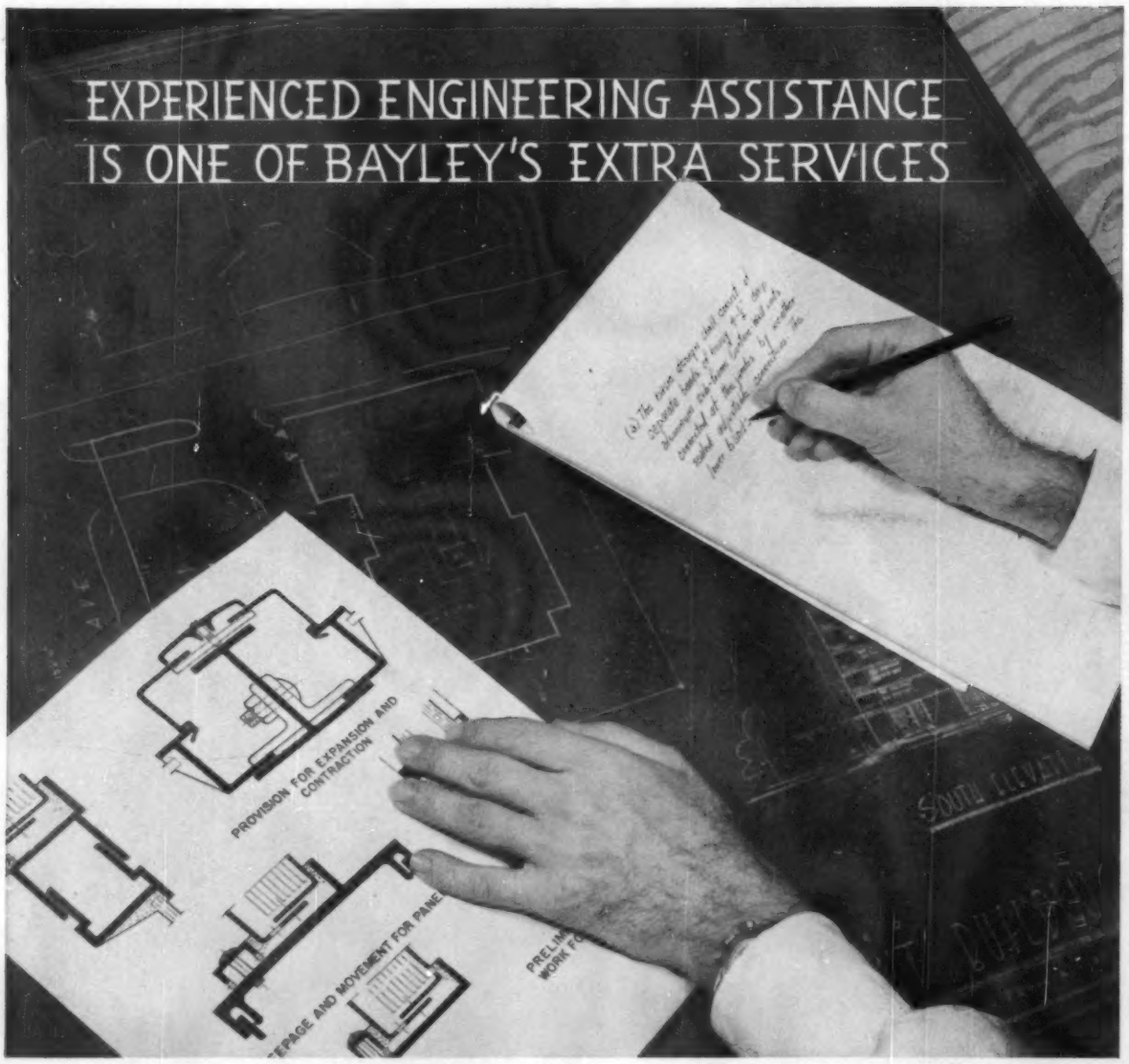
Bruce Fireside Plank FLOOR

Naturally Beautiful

Furniture by Consider H. Willett, Inc. Photo by Hedrich-Blessing

A floor needn't be expensive to be different and attractive! This dramatically dark Bruce Fireside Plank costs little more than regular strip oak flooring, yet has added decorative appeal. The rich plank effect is created by alternating 2¼" with 3¼" widths and by wide, shallow side bevels. Bruce Fireside Plank is completely finished at the factory to eliminate the expense of on-the-job sanding and finishing. Write for color booklet. See our catalog in Sweet's Files.

E. L. BRUCE CO. BRUCE Memphis 1, Tenn.



Place Your Window and Curtain Wall Jobs In Experienced Hands

To save time—consult experienced window and curtain wall Engineers in the initial designing stages of your projects. Bayley is glad to render such counseling. It's one of Bayley's extra services. Highly qualified and known for reliability they'll not steer you wrong. And with their years of background in originating and designing many of today's most advanced window and curtain wall developments they can assist you in achieving individualized treatments of sound construction with the maximum economy of time and building costs. Call or write your local Bayley Representative for this Bayley service. There's no obligation.

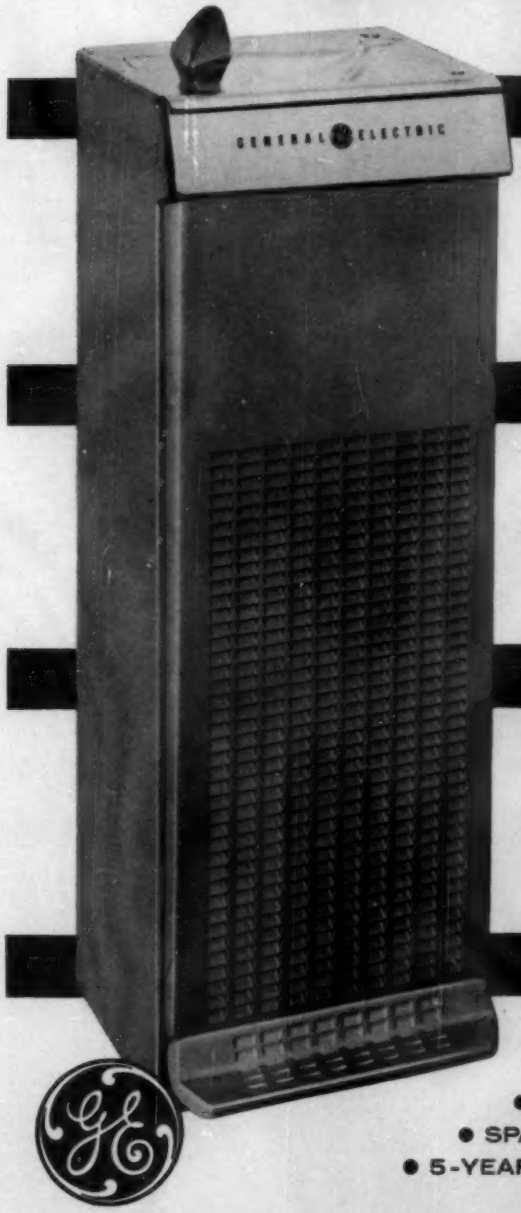
Ask for copies of these BAYLEY CATALOGS

The WILLIAM BAYLEY Co.
Springfield, Ohio

BAYLEY
STEEL • ALUMINUM
WINDOWS
and Curtain Walls

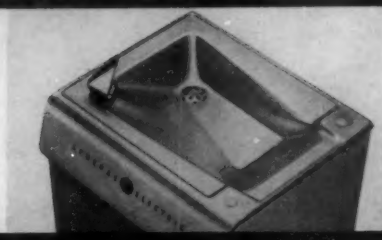
District Sales Offices: Springfield • Chicago • New York • Washington

Make sure you get all these features... specify GENERAL ELECTRIC WATER COOLERS



ANTI-SPLASH BASIN

Prevents splashing, spilling, splattering of bubbler stream. Stainless steel—easy to clean.



NO-GROPE PEDAL

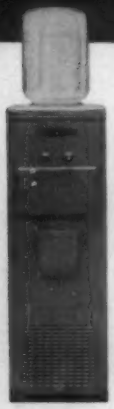
Full width design permits water control from any point in front of cooler. Special design prevents scuffed shoes, stubbed toes.

TEMPERATURE DIAL

Just dial the water temperature you like best. Eight different settings offer wide selection.

PLUS

- ADJUSTABLE BUBBLER
- HANDSOME STYLING
- SPACE-SAVING DESIGN
- 5-YEAR PROTECTION PLAN



How many water coolers do you need and where should they be located for best results?

G-E Water Coolers are available in 14 different models with capacities from 2.85 to 21.5 gallons per hour. Call your local G-E Water Cooler dealer or write to General Electric Co., Commercial & Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, N. J.

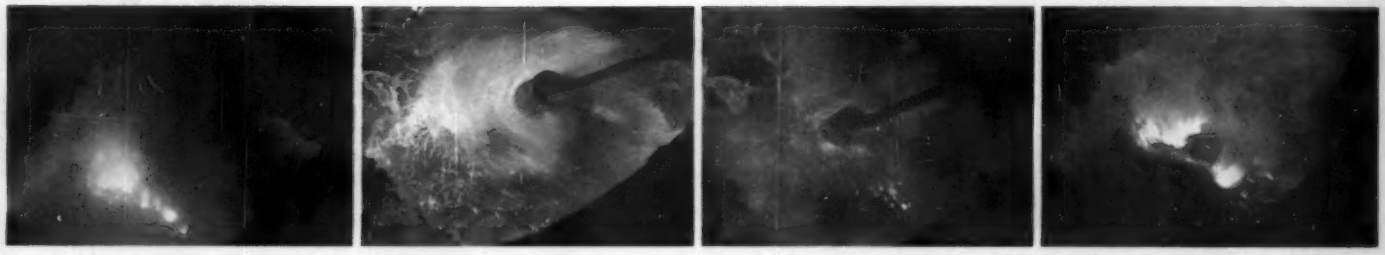
Progress Is Our Most Important Product

GENERAL ELECTRIC

ASK ABOUT Hot and Cold Combinations, pressure and bottle types—also refrigerated compartment models.

Now—from Byers Research
an even better Wrought Iron for modern corrosion control—

NEW 4-D



In 30 seconds—a higher degree of purification—

Out of the laboratory and into production comes a newly formulated Wrought Iron to strengthen man's arsenal of corrosion resistant weapons.

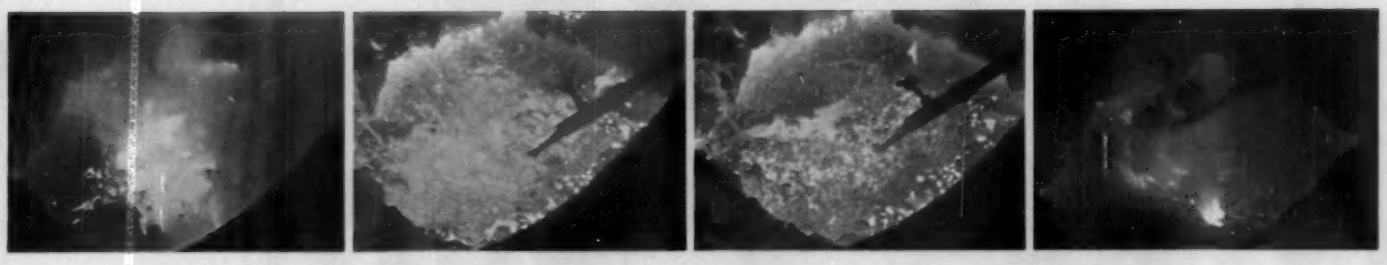
New 4-D Wrought Iron is at least 25% *more* corrosion resistant than standard wrought iron—long an industry standard for superior corrosion resistance. This significant metallurgical advance is the result of 17 years of continuing research by Byers metallurgists.

And here's what it means to you.

Seventeen year in-service and laboratory tests prove that 4-D Wrought Iron is superior not only to standard wrought iron, but has much greater corrosion resistance than other materials which are sometimes offered as substitutes. Thus, the economy of using standard wrought iron can now be compounded through the use of new 4-D Wrought Iron.

In addition to increased corrosion resistance, new 4-D Wrought Iron has

WROUGHT IRON



and new 4-D Wrought Iron is born.

greater uniformity and improved physical and mechanical properties. This is attained by substantially increasing the deoxidization of the base metal, increasing its phosphorous content, and using a more siliceous slag.

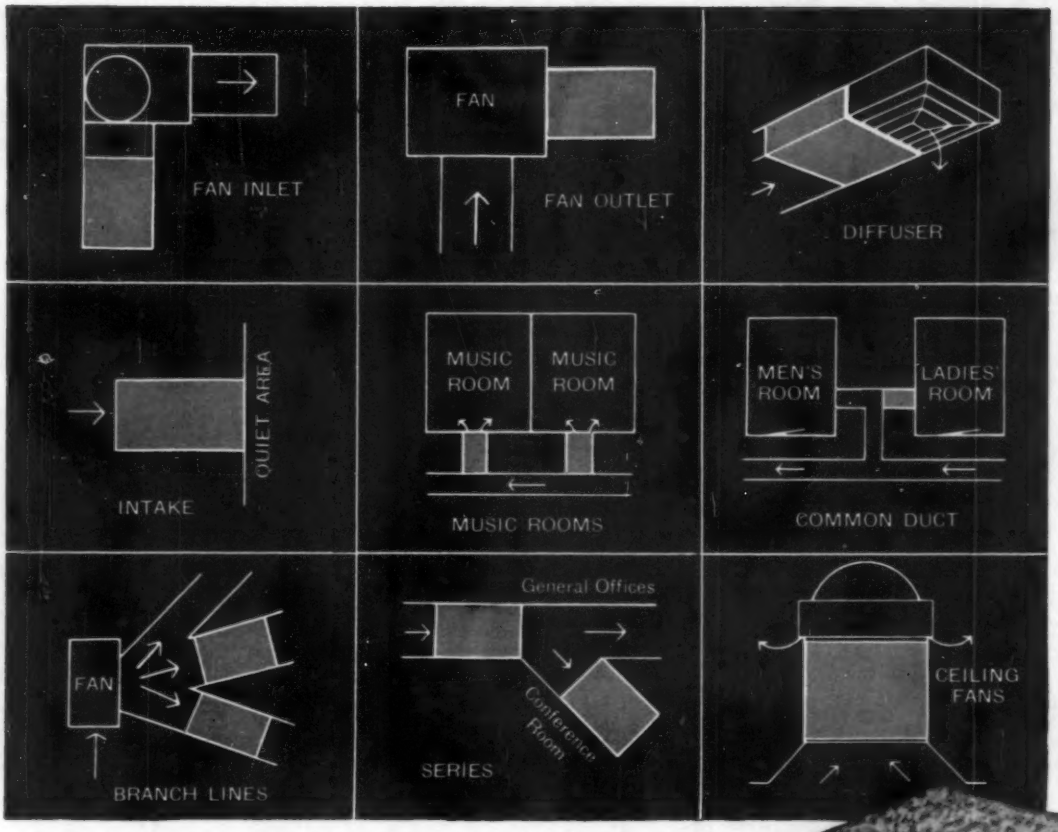
And the price of new 4-D Wrought Iron? No increase. Despite higher production costs, the price of Wrought Iron will remain the same.

Write us for new 4-D Wrought Iron literature. A. M. Byers Company, Clark Building, Pittsburgh 22, Penna.

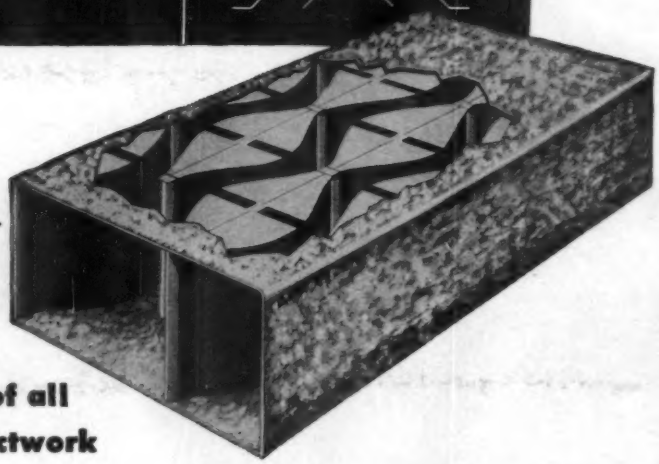
BYERS WROUGHT IRON

Increasing the deoxidization — a key step in the manufacture of new 4-D Wrought Iron.

BY-1718-8



Every Building Needs Aircoustat™ Sound Traps



AIRCOUSTAT silences all noise of all frequencies traveling through ductwork

Eliminate disturbance, distraction and irritation caused by noises escaping from one area to another through ductwork.

Install AIRCOUSTAT Sound Traps. AIRCOUSTAT eliminates guesswork, wasted space and unnecessary expense of duct lining. You can guarantee your client trouble-free performance. You can estimate with complete confidence the performance of particular applications. If AIRCOUSTAT fits geometrically, it fits acoustically.

AIRCOUSTAT saves you space. Its greater effectiveness permits smaller-sized ducting. It eliminates bulky mufflers.

For more details, write to KOPPERS COMPANY, INC., Industrial Sound Control Dept., 6603 Scott Street, Baltimore 3, Md.

KOPPERS

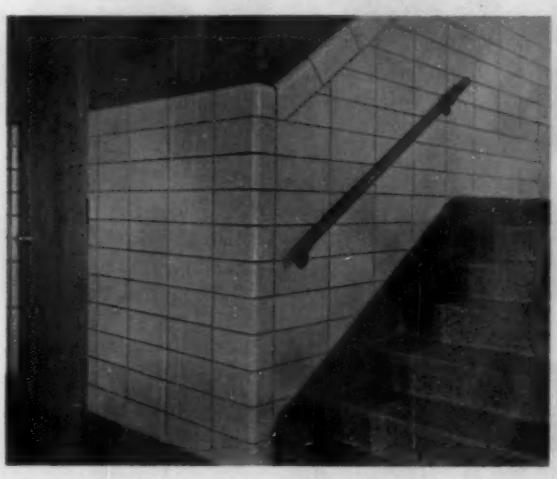
INDUSTRIAL SOUND CONTROL

Engineered Products Sold with *Service*

HANLEY TILE

DURAMIC GLAZED STRUCTURAL FACING TILE

Color plus something extra. Hanley tile comes in a wide range of beautiful colors . . . colors that complete any architectural concept and provide lasting beauty. This beauty is just one reason for Hanley tile's popularity with architects, builders and owners. You get beauty plus a product that is the result of years of experience in the structural clay products field, scientific quality control, and the most modern manufacturing facilities in the industry. It is your guarantee of lasting beauty and satisfaction.

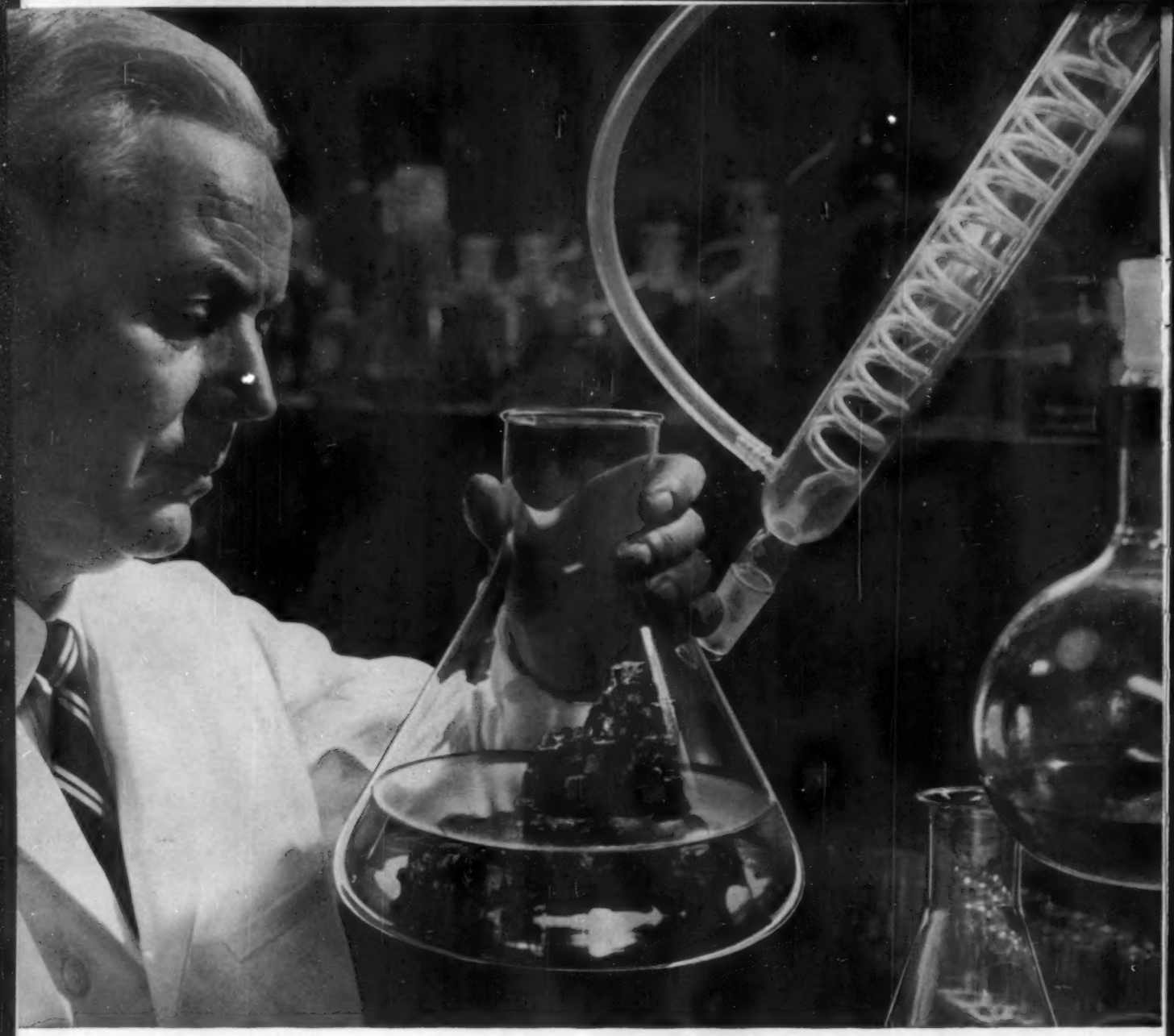


Literature describing Hanley glazed brick and tile is filed in Sweet's Catalog Services. For copies, contact your nearest Hanley Sales Office or Distributor.

distribution in all principal cities

HANLEY COMPANY

Administrative Office: **One Gateway Center, Pittsburgh 22, Pa.**
Home Office: **28 Kennedy Street, Bradford, Pa.**
District Sales Offices: **New York • 101 Park Avenue**
Detroit • 14976 Schaefer Highway
Buffalo • 625 Delaware Avenue
Pittsburgh • 647 Washington Road, Mt. Lebanon



Textile processor finds fuel cost solution in coal

Kerr Bleaching & Finishing Works' modern equipment cuts steam costs 33%, manpower 67%

When production demands at Kerr Bleaching & Finishing Works, Concord, N.C., called for additional steam capacity, the firm decided to build a completely new power plant. Coal was chosen as the fuel on the basis of cost studies. Nine small boilers were replaced with one 60,000 lb/hr unit. Automatic controls were installed. The results were a 50% increase in steam capacity and a 67% reduction in manpower. Overall fuel and operating costs at Kerr were cut over 33%!

Consult an engineering firm

If you are remodeling or building new power facilities, consult a qualified engineering firm. Such concerns—familiar with the latest in fuel costs and equipment—can effect great savings for you in efficiency and fuel economy over the years.

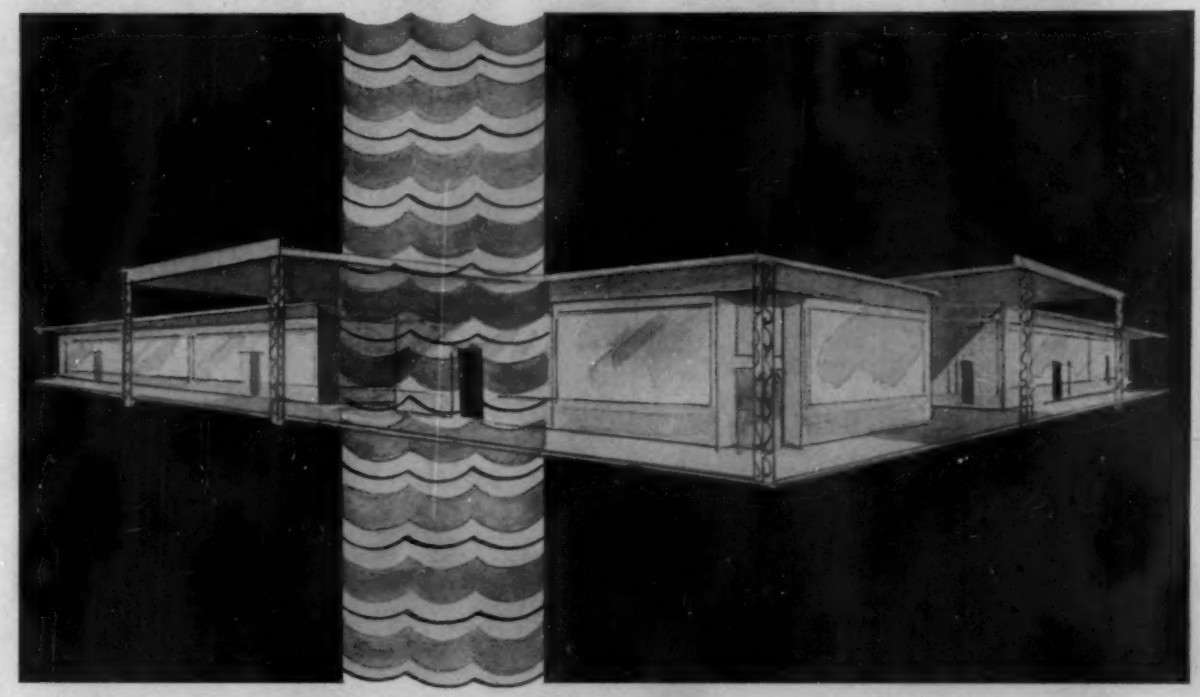
Facts you should know about coal

You'll find that bituminous coal is not only the lowest-cost fuel in most industrial areas, but up-to-date coal burning equipment can give you 15% to 50% more steam per dollar. Today's automatic equipment can pare labor costs and eliminate smoke problems. And vast coal reserves plus mechanized production methods mean a constantly plentiful supply of coal at stable prices.

For additional case histories on burning coal the modern way or for technical advisory service, write to the address below.

BITUMINOUS COAL INSTITUTE • Southern Building, Washington 5, D.C.

6 stores + 1 heavy rain prove Josam **BACKWATER VALVES provide positive protection**



Josam

BACKWATER VALVES

stop water and sewage backflow... positively prevent damage

When a flash flood due to a torrential rain hit a new shopping center in a large metropolitan city, the basements of five store units in which Josam Backwater Valves were installed, were dry and secure. The basement in the sixth unit in which another type of device was installed as backwater protection, was flooded with backwater from the sewer — with heavy loss to equipment and stock.

Here is pointed proof that there are no substitutes for Josam Products. When Josam Backwater Valves are installed you can be sure of complete, positive protection against backwater from heavy rains, floods and inadequate sewer carry-off. Every home . . . every building should be safeguarded against the ravages of backwater—especially since ordinary insurance does not provide for this contingency. For complete details send coupon today.

Series No. 1170-T, one of the many types of Josam Backwater Valves.

The scientifically engineered flap valve permits normal drainage to the sewer, but closes *instantly* and *tightly* at the slightest backflow from the sewer.

JOSAM DOES EVERY JOB BETTER BECAUSE ONLY Josam HAS THE RIGHT PRODUCT FOR EVERY JOB

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Josam products are sold through plumbing supply wholesalers.

JOSAM MANUFACTURING COMPANY
Dept. AR3, Michigan City, Indiana

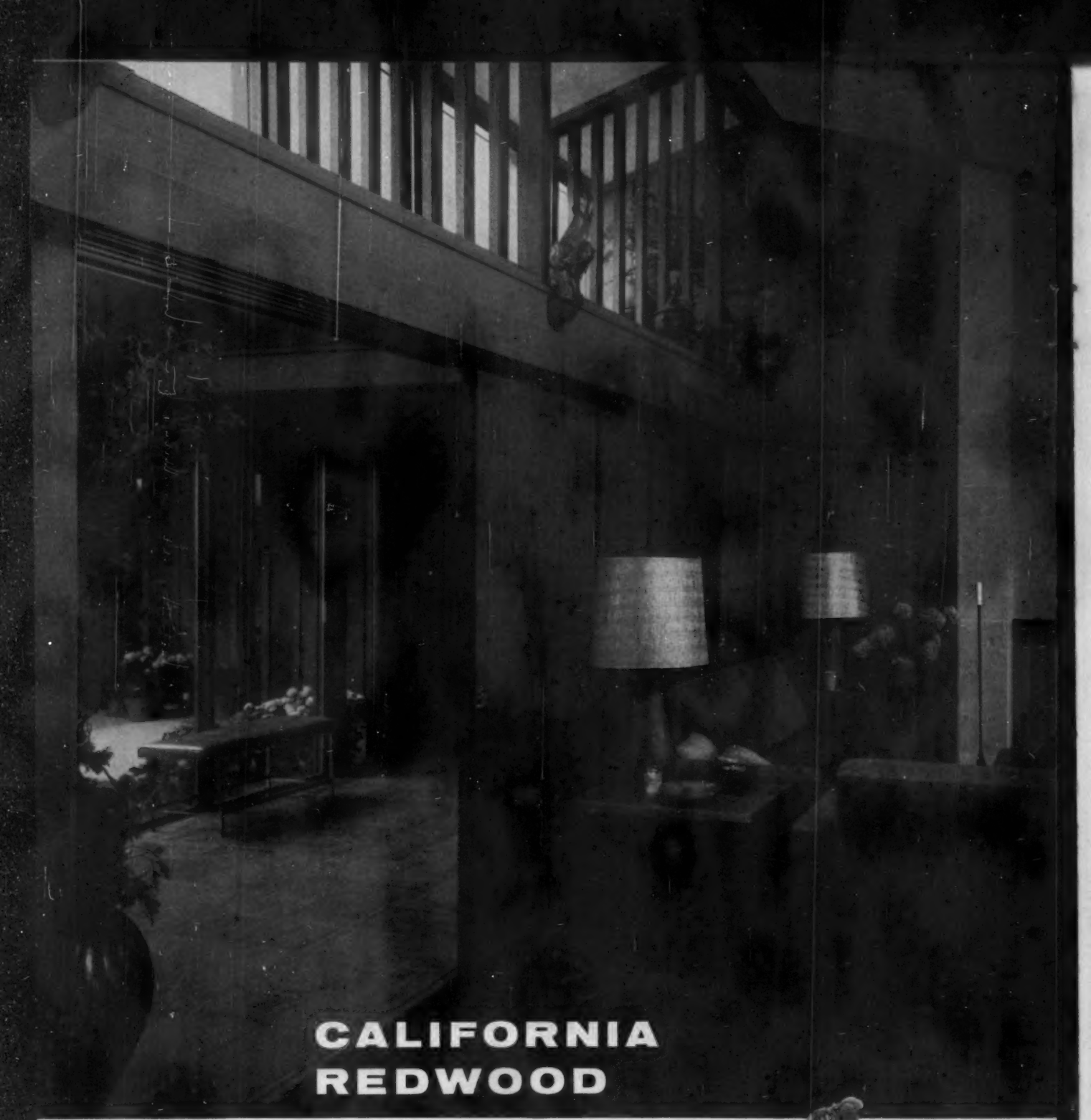
Please send copy of Manual BW on Backwater Valves

Firm.....

By.....

Address.....

City..... Zone..... State.....



CALIFORNIA REDWOOD

TEXAS RESIDENCE
HARWELL HAMILTON HARRIS, AIA
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... its texture, its color, the pattern of its grain ... can mean more pride to the client in a beautiful home ... more pride to the architect and interior designer in a job well done. To be sure every time, specify "CRA-Certified Kiln Dried."

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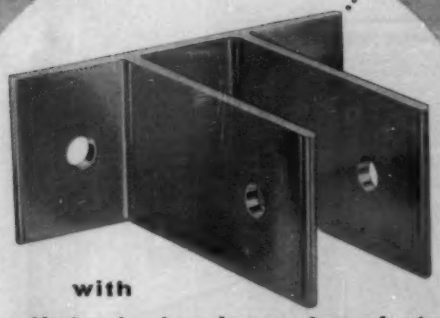
CALIFORNIA REDWOOD ASSOCIATION
576 Sacramento Street • San Francisco 11, California

AGAIN

Sanymetal®

LEADS...



with
polished aluminum brackets,
anodized and forever
resistant to corrosion

Like all other features of Sanymetal Toilet Compartments, the new polished aluminum anodized brackets are designed to increase the durability, attractiveness, and lasting satisfactoriness of Sanymetal compartments.

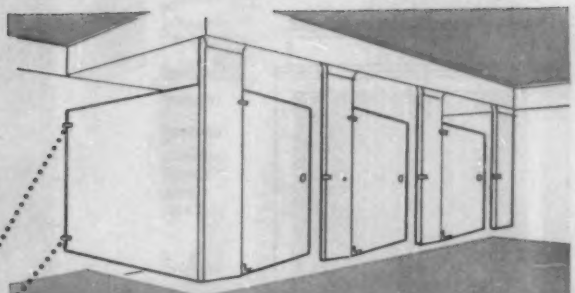
Solid, non-rusting metal through and through, these brackets will always be bright and new looking. Made of aircraft-type alloy, they are also extra strong, to resist abuse.

Sanymetal is first with such features because Sanymetal knows that building owners want a product which will look attractive, stay attractive and at the same time reduce maintenance costs to the minimum.

See Sweets, or write for Catalog 94, which gives all the important details of quality toilet compartment construction.

LOOK FOR THIS

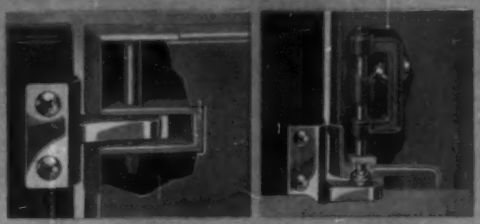
NAMEPLATE
WHICH IDENTIFIES EVERY
SANYMETAL INSTALLATION.



THE SUM OF SANYMETAL FIRSTS...

PORCENA . . . Sanymetal was first (in 1936) to introduce vitreous porcelain on steel for toilet compartments, saving building-owners countless dollars—no Porcena compartment ever requires refinishing!

+



CONCEALED TOP AND BOTTOM HINGES

A postwar Sanymetal engineering achievement, the hinge that not only looks better, but is so strong that a heavy adult swinging on a door cannot damage it. Bearings provided at all moving parts.

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NEW 8800 CONCEALED LATCH

Introduced this year, this tamperproof, better looking latch, tested to 300,000 cycles of operation, makes the old exposed-bolt latch obsolete.

+

—plus trouble-free mountings, quick-leveling permanent set jackscrews, packaged hardware, welded doors and pilasters, galvanized and bonderized finish with Epon primer before finish coat—all Sanymetal firsts that offer money-saving quality.

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MORE ECONOMY, LOWER LONG RUN COST FOR THE BUILDING OWNER

Sanymetal® PRODUCTS COMPANY, INC.
1089 Urbana Road, Cleveland 12, Ohio

freedom of design
with **POMEROY**
CUSTOM
PRODUCTS
for all size projects!

See SWEETS '58 CATALOG
for complete specifications

The Architect has more freedom of design with the new comprehensive line of Pomeroy Custom Products. The numerous variations and the flexibility now achieved through the use of Pomeroy Custom Built Windows and Air-Conditioning Enclosures is resulting in more and more architects planning Pomeroy Products for small, medium and large scale products.

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1897

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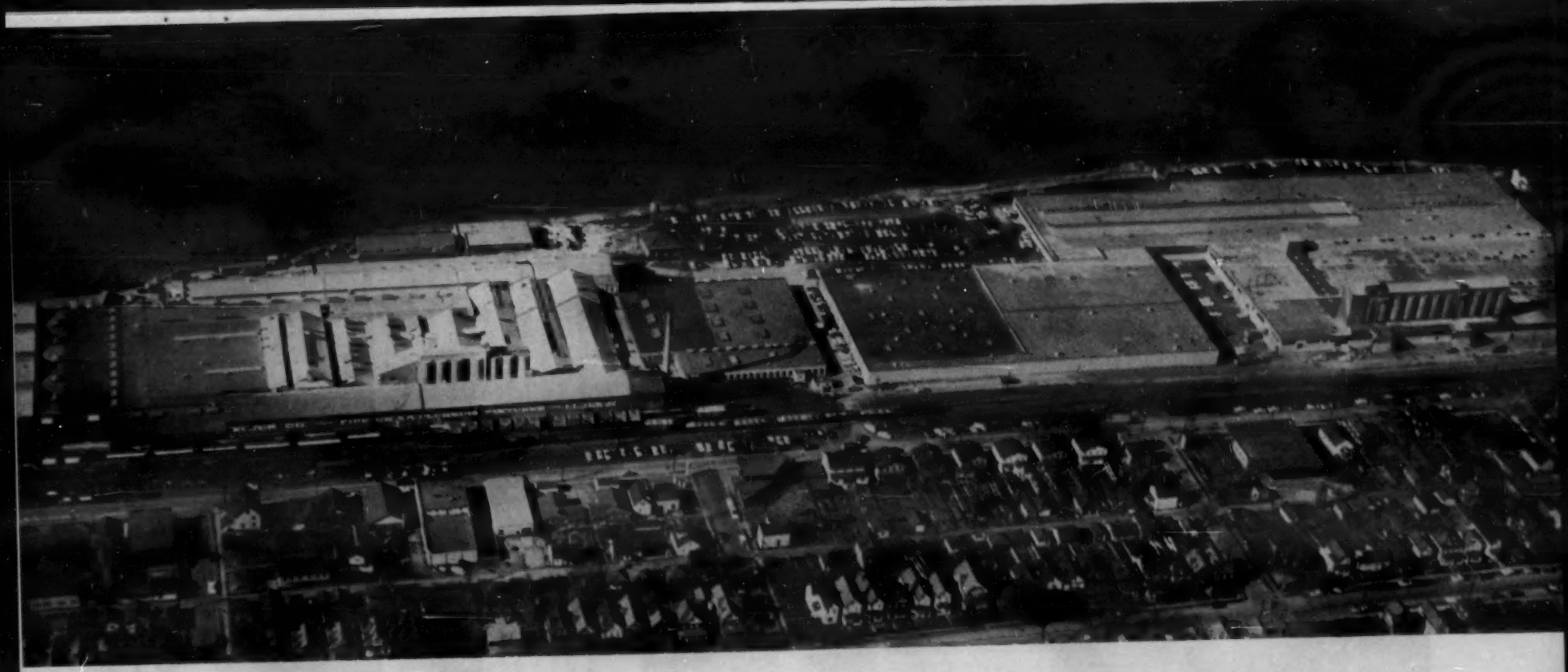
DOUBLE-HUNG WINDOWS	360° REVERSIBLE WINDOWS	FIXED and HINGED WINDOWS	CUSTOM-BUILT ENCLOSURES	CURTAIN WALLS	ACOUSTICAL CEILING SUSPENSION SYSTEMS

FABRICATION IN ALUMINUM — STAINLESS STEEL and COATED STEEL



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THE LARGEST AND MOST MODERN SANITARY-WARE POTTERY IN THE WORLD

Now, giant additional modern facilities at Eljer's Ford City pottery assure you maximum quality and service on all your vitreous china bathroom fixture needs. Here, in one location, skilled workmen and skillfully engineered equipment produce vast quantities of vitreous china fixtures . . . all made to the traditionally high Eljer quality standards. Contact your Eljer Plumbing Contractor now to determine how Eljer can help solve your bathroom fixture problems in vitreous china . . . and, from three other up-to-date plants, in cast iron, formed steel and brass fittings. Eljer Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh 22, Pa.

ELJER

DIVISION OF THE MURRAY CORPORATION OF AMERICA

How Standard Products solves

DRAFTITE*

for efficient weather-seal around windows

Americana Hotel, Miami Beach, Florida.
Windows by Arnold Altex Aluminum Co.
Morris Lapidus, Architect; Leo Kornblath, Associate, New York and Miami Beach.

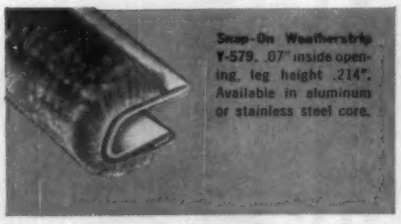
DraftTite* solves the architect's problem of proper sealing around perimeters of all types of metal windows. Whether he is designing a skyscraper or a private home, he knows that DrafTite wool pile weatherstrip is right for the windows he specifies.

Tests prove DraftTite has more than twice the sealing efficiency specified by the industry. Won't leak, sweat, or stick . . . ensures better insulation with *easier* window operation.

A successful application of DraftTite is pictured here in the Americana Hotel. This modern building and many others depend on DrafTite to keep air-conditioned comfort in—heat, dust, wind, and rain out . . . with an efficiency that endures for years.

Check these examples of DrafTite's many uses. Write for full information, and call on Standard Products engineering service to help solve your sealing problems.

*Trade-Mark



Snap-On Weatherstrip Y-579. .07" inside opening, leg height .214". Available in aluminum or stainless steel core.

Glass Run Window Channel 15-K. 3/16" leg height, 1/2" bottom width. Stainless steel core. 3/64" glass or sill fin opening.

The Standard Products Co.

BUILDING PRODUCTS DIVISION • Sales Offices: 316 Fisher Bldg., Detroit, Michigan

weatherstrip and sealing problems

StanSeal*

for pivoted windows curtain wall seals, glass setting beads

Mutual Benefit Life Insurance Co., Newark, New Jersey.
Window Wall by Kawneer.
Eggers & Higgins, Architects, New York City.

Unique design of StanSeal makes it the tightest, longest lasting curtain wall seal and glass setting bead on the market . . . with either positive self-locking seal or self-locking filler strip.

This new neoprene weatherstrip is tough, long-wearing, withstands wind tests far greater than the minimum standard requirements. Yet, for pivoted windows such as used in the new Mutual Benefit Life Insurance Building, StanSeal is flexible for 360° rotation and, because of special chlorinated treatment, reduces surface friction to a minimum for easy window operation.

For curtain wall structures, StanSeal solves problems of expansion and contraction . . . eliminates time-consuming calking and outside scaffolding.

Solve your sealing problems with new StanSeal. Write for information today. For special adaptations, call on Standard Products excellent engineering service.

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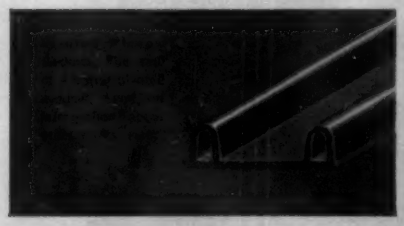
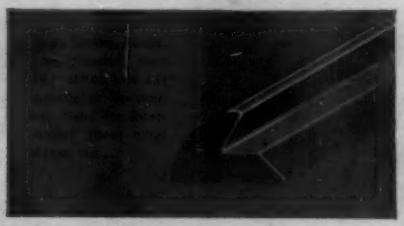
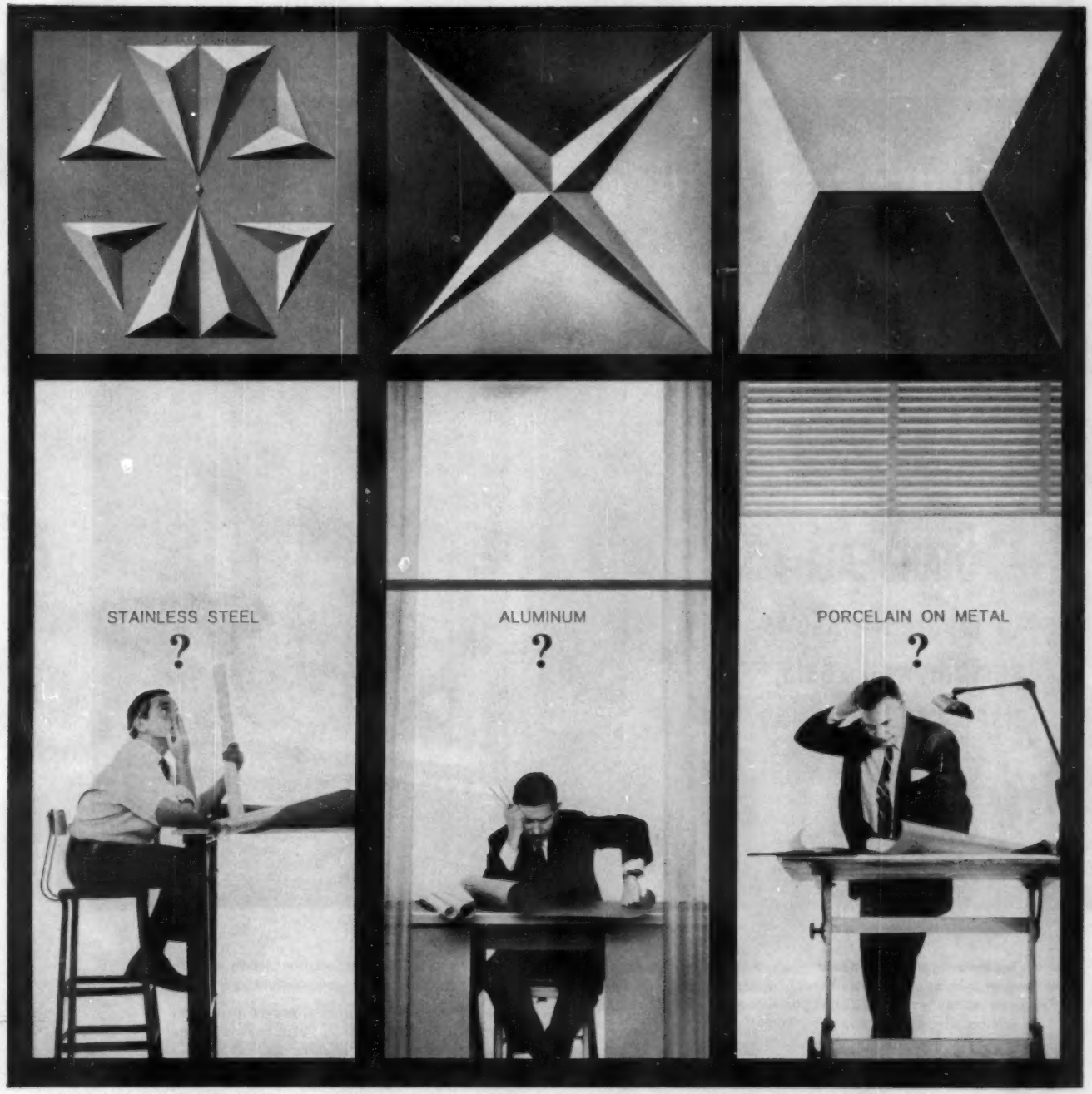




The Standard Products Co.

BUILDING PRODUCTS DIVISION • Plants: Lexington, Kentucky; Port Clinton, Ohio; Fullerton, Calif.



GOING UP ALL OVER AMERICA—"high-rise" buildings sheathed with metal backed by Fiberglas Insulation.

Whatever your curtain wall design...
Your best curtain wall insulation is Fiberglas*

The textures and colors you can achieve in modern curtain walls are virtually limitless. The range of materials and surface finishes permit greater flexibility of design . . . exciting new profiles.

But metal walls must be fortified with comfort-producing insulation. Your best curtain wall insulation is Fiberglas, used in adequate thicknesses. Fiberglas not only delivers year-round comfort, its excellent thermal performance reduces the size of heating and cooling units and lowers operating and maintenance costs. Fiberglas Insulation is rated incombustible, will never rot, or corrode metals, and is dimensionally stable. You can rely on it permanently.

Owens-Corning Fiberglas Corp., Dept. 68-C, Toledo 1, Ohio

OWENS-CORNING
FIBERGLAS

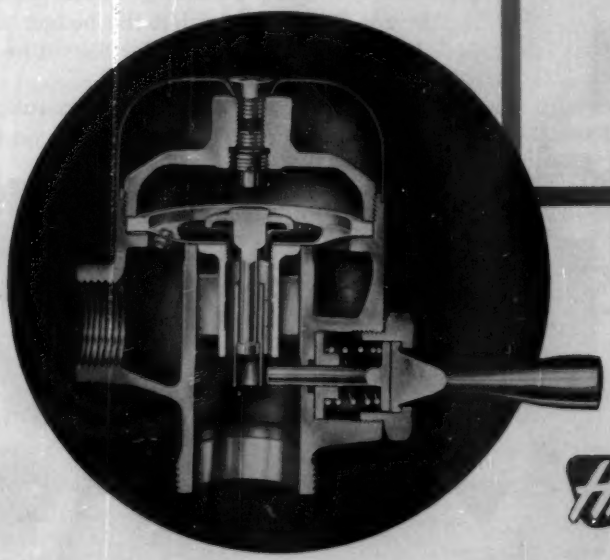
*T. M. (Reg. U.S. Pat. Off.) O-C.F. Corp.

ANNOUNCING...
THE NEW HAWS-KRAMER NYLA-PHRAGM FLUSH VALVES

The new, diaphragm flush valves that are unconditionally guaranteed for FIVE YEARS of SATISFACTION! Extensive laboratory tests have proven their durability. All wearing parts are designed of amazingly tough NYLON... diaphragm assemblies, operating plungers and relief valves have operated through over 1,500,000 flush cycles, WITHOUT signs of failure or appreciable wear.

HAWS-KRAMER Nyla-Phragm Valves also feature ease of adjustment! They can be adjusted over a range of from less than one gallon to 6 to 8 gallons per flush cycle, *without disassembly*. Add to this, the "O" Ring leakproof handle assembly, and you have an unbeatable flush valve specification.

It's styled for eye-appeal, too! The beautiful symmetrical lines were designed by CHANNING WALLACE GILSON, leading industrial designer, for tops in appearance, as well as function. Its form and shape make for simple cleaning and complete sanitation.



MODEL D SERIES

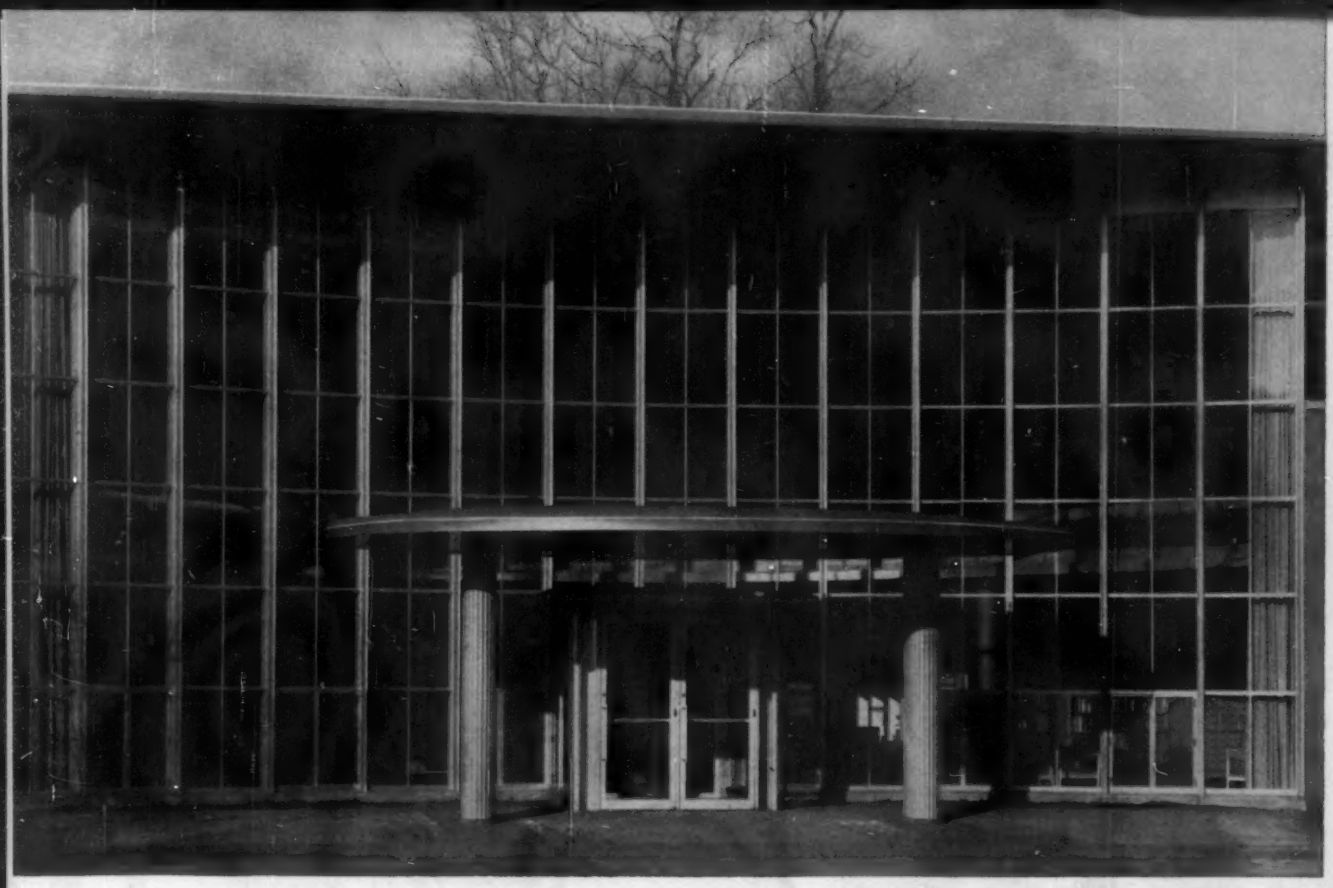
TO LEARN MORE about the latest diaphragm flush valve in the industry...write for the *new 20-page catalog* and name of your nearest HAWS-KRAMER Representative.

HAWS-KRAMER FLUSH VALVES
819 BRYANT STREET • SAN FRANCISCO 3, CALIFORNIA

Division of

HAWS **DRINKING FAUCET COMPANY**

— leaders, since 1909, in the development of modern drinking water and emergency eye-wash facilities. As always, you can specify and order HAWS and HAWS-KRAMER with confidence!

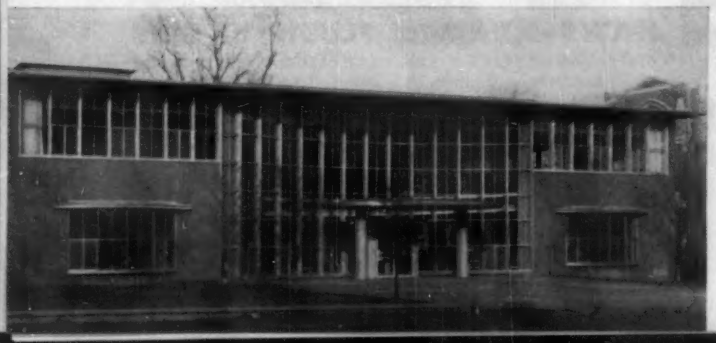


Close-up photo of front, curved glass wall which gives excellent light to interior—helped by the trim aluminum structural mullions which also contribute to the clean-lined design. Elliptical canopy is free standing . . . supporting columns are encased by aluminum extrusions.

MONTCLAIR LIBRARY GOES ALUMINUM

to meet budget and lower upkeep

Over-all view shows contemporary harmony of aluminum when used with other materials. Carefully planned for future needs of the community, this library has three floors which serve children, teen-age and adult groups.



In building a library that is friendly, functional and contemporary, Montclair turned to practical aluminum. Two-story structural mullions, window frames and an interesting entrance canopy make this an unusually attractive building. The aluminum decision helped keep costs within the budget and eliminated maintenance problems for the future.

An actual-size detail of the aluminum extrusions which form the structural mullions is shown on the next page.

Aluminum offers architects flexibility in design and exceptional practicality. Your nearest Alcoa sales office will gladly show you how and why. Or write: Aluminum Company of America, 1888-C Alcoa Building, Pittsburgh 19, Pa.

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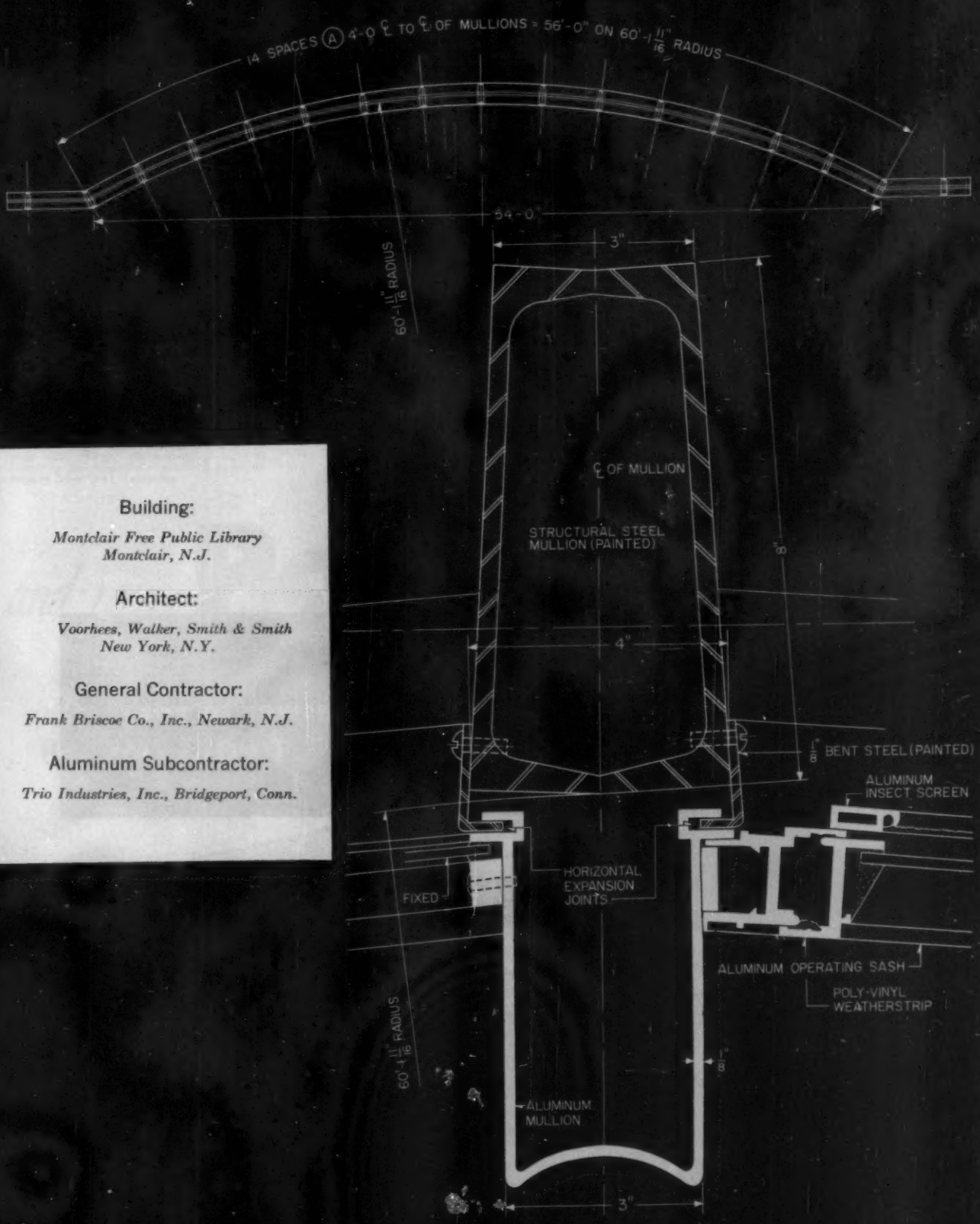
Your Guide to the Best in Aluminum Value

"ALCOA THEATRE"
Exciting Adventure
Alternate Monday Evenings

MONTCLAIR LIBRARY

Detail Aluminum Vertical Mullions, Main Entrance



Building:

Montclair Free Public Library
Montclair, N.J.

Architect:

Voorhees, Walker, Smith & Smith
New York, N.Y.

General Contractor:

Frank Briscoe Co., Inc., Newark, N.J.

Aluminum Subcontractor:

Trio Industries, Inc., Bridgeport, Conn.

Heating?

Cooling?

Air Conditioning?

Process?

Here's How to Get the RIGHT Answer to your HEAT-EXCHANGE PROBLEMS

The right ratio of surfaces – the right materials – the right velocities – the right proportion between coil area and depth . . . there are dozens of factors that affect the efficiency, maintenance and service life of heat-exchange coils.

For best performance in your own application, the practical approach is to take full advantage of the unequalled engineering, research and design skill – the unequalled manufacturing and testing facilities – which Aerofin offers you.

To get the *right* answer – ask the Aerofin man.

Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request.

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ONE SOURCE FOR EVERY INDUSTRIAL LIGHTING NEED!

SOLID NECK LINE Sturdy, attractive one-piece units provides quality illumination at low cost for **Factories** and **Warehouses.**

"FLO-LINER" Smartly styled shallow lighting units for any **Commercial** or **Office** installation.

"BI-FLO UPLIFTER" 72% downlight — 28% uplight, provides greater seeing comfort for industrial areas such as **Assembly Lines.**

"D" LINE High efficiency, all-purpose fixtures with upward component of light to relieve severe brightness contrast. Ideal for **Machine Shop** and **Factories.**

DURATACH LINE Rugged fixture that offers easy, low cost maintenance plus complete interchangeability. Widely used in **Industrial** and **Textile** plants.

"DUST-TIGHT" and **"VAPOR-TIGHT"** Specialized fixtures for hazardous and non-hazardous locations such as **Printing Plants, Flour Grain Mills, etc.**

and now Power-Lume

latest addition to *Wheeler*

"PACKAGE PLAN" lighting

Power-Lume by Wheeler — a new fixture in 2 types of Construction "F" and "V" . . . specifically designed to utilize fully the extra illuminating power of the new Power-Groove lamps. Delivers TWICE the amount of lumen output per foot of lamp length! For complete details, write for New Product Data Sheet No. 100 D.

Wheeler

REFLECTOR COMPANY

(Division of Franklin Research Corp.)

275 CONGRESS STREET

BOSTON 10, MASS.

Distributed Exclusively Through Electrical Wholesalers

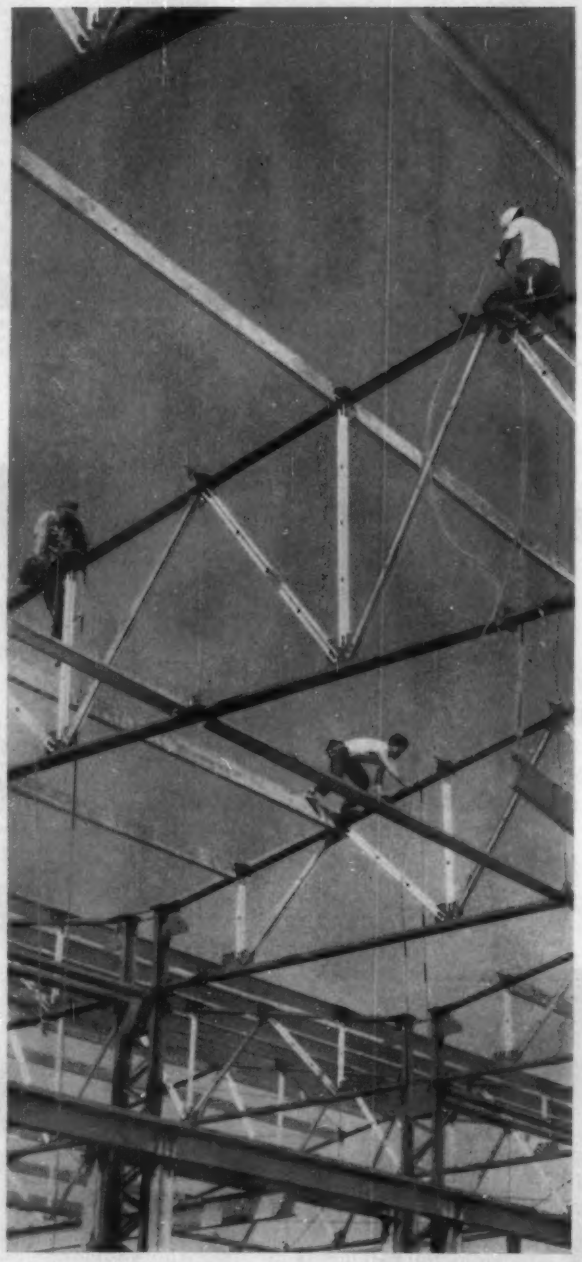
Here's The Way To Save CLIENTS' DOLLARS

Workmen assemble strong, lightweight roof structure of a big Truss-Type Armco Steel Building. Their work demonstrates three prime advantages of designing with Armco Buildings.

FIRST, in the design stage, you gain the economies and convenience of pre-engineered, tested structurals as well as covering materials. Clear spans range to 100 feet, with wind and snow load designs specifically tailored for each section of the country.

SECOND, in the construction stage, you'll find that precision-made parts go together quickly and correctly. Efficient Armco crews are equipped to do the erection job for you and your contractor.

THIRD, through long service, your client gains low annual cost. In addition his Armco Building earns dividends with its limited maintenance requirements. Special Armco Steels like ZINCGRIP® and ALUMINIZED STEEL are well known for their durability. And special design features like the sloping, self-cleaning surfaces of the truss components add extra value.



Send for complete data

You'll find basic specifications and description of Armco Steel Buildings in Sweet's Architectural File, 2i/Ar.

For specific details, write us or mail the coupon to Armco Drainage & Metal Products, Inc., 3928 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation. In Canada: write Guelph, Ontario. Export: The Armco International Corporation.

Send details about Armco Buildings for the following use:

_____ Approximate size_____

NAME_____

TITLE_____

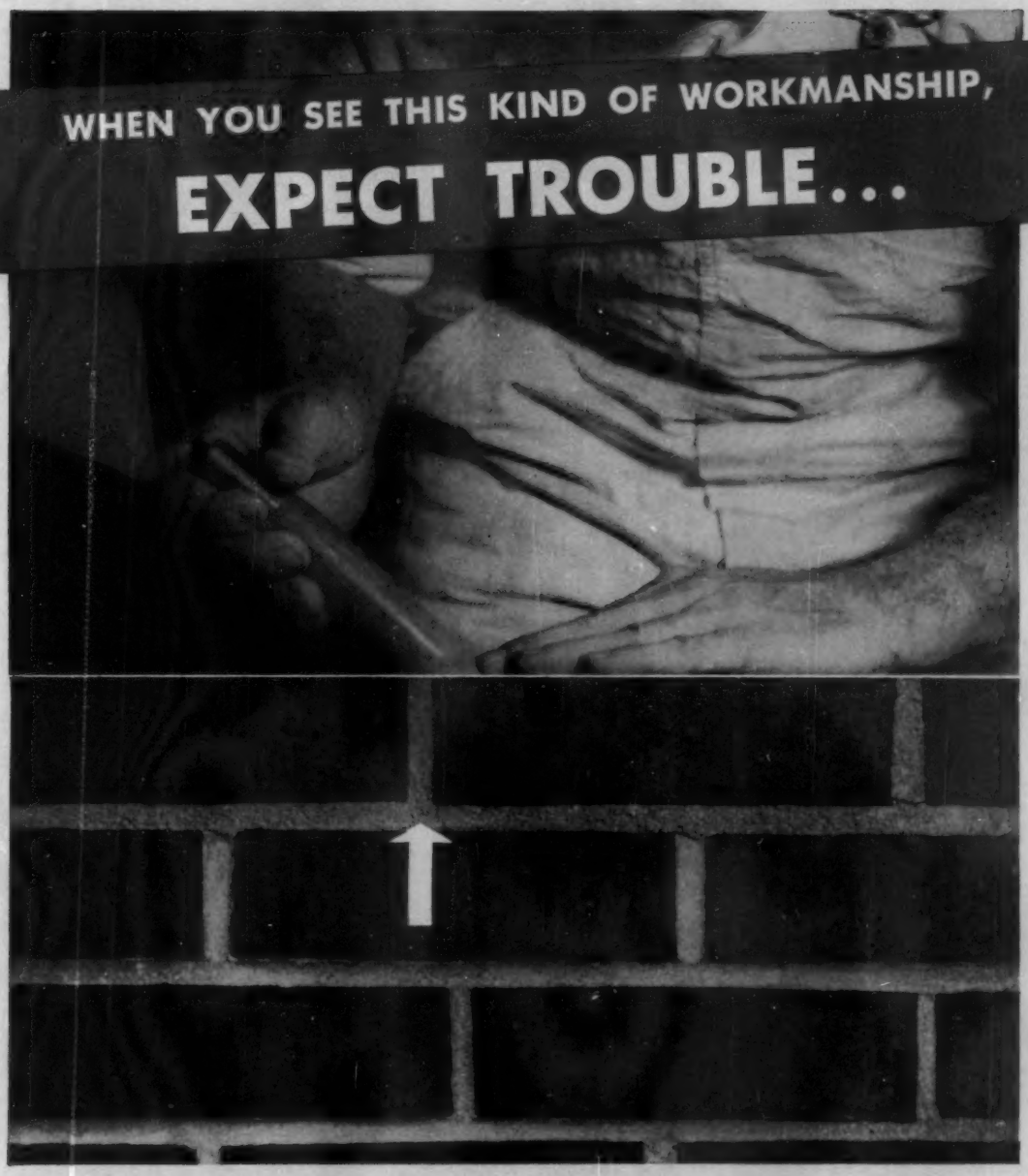
FIRM_____

STREET_____

CITY_____ ZONE____ STATE_____

ARMCO®

WHEN YOU SEE THIS KIND OF WORKMANSHIP, EXPECT TROUBLE...



GOOD workmanship is one of the most important factors in preventing leaky brick walls.

Good workmanship includes wetting the brick, securing full head and bed joints, backplastering the face brick—*and laying the brick carefully to keep the bond. The position of the brick should never be shifted after the mortar has stiffened.*

Expect trouble when brick are shifted or tapped into place after the mortar has stiffened. Cracks will result and the wall may leak.

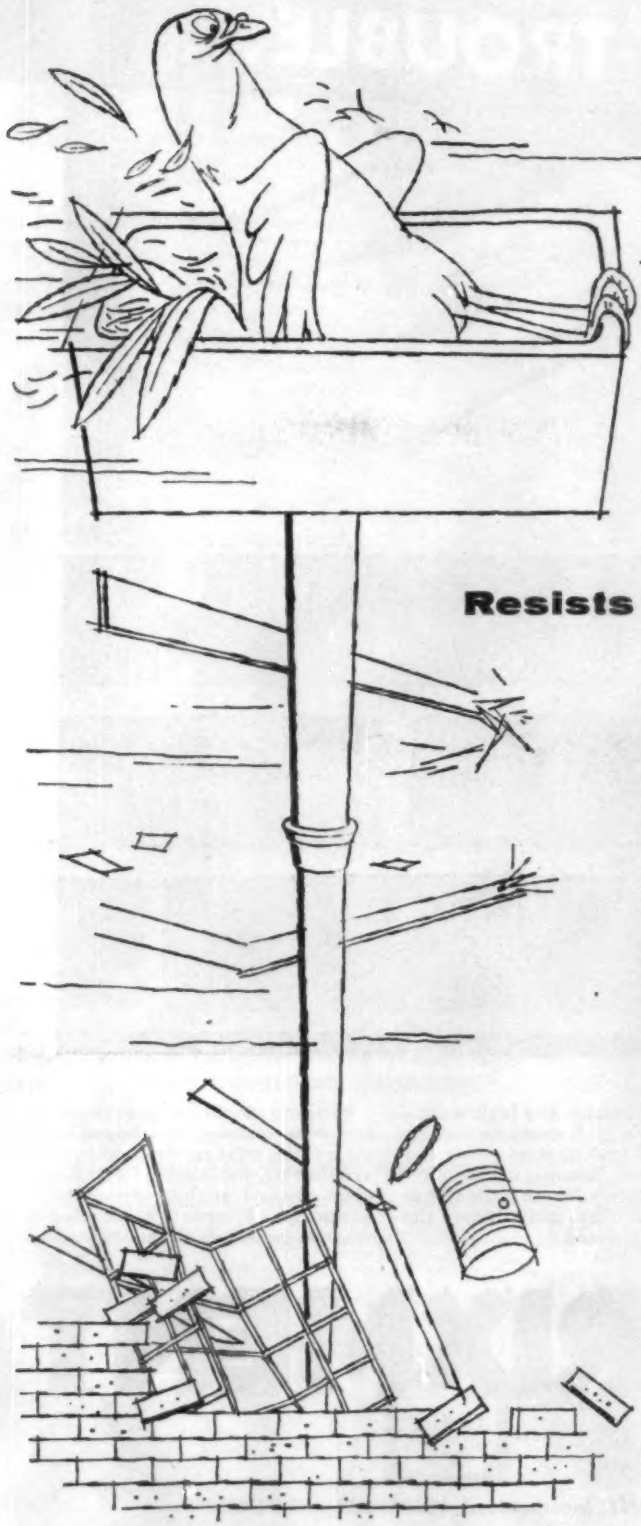
Brixment mortar has high water-retaining capacity. It resists the sucking action of the brick. It stays plastic and workable longer. Brixment morta. therefore makes it easy for the bricklayer to lay the brick accurately, before the mortar has stiffened.

Brixment mortar has great plasticity, high water-retaining capacity and bonding quality, great resistance to freezing and thawing, and freedom from efflorescence. Because of this *combination* of advantages, Brixment is the leading masonry cement on the market.

BRIXMENT

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

DURIRON®



Resists Practically Everything

Duriron corrosion resisting drain pipe generally outlasts the building. Duriron is high silicon iron *throughout* the thickness of the pipe wall. It's the one permanent piping specified by architects and engineers for corrosive waste disposal systems for more than 30 years! Insist on Duriron.

Duriron pipe and fittings are available from stock from leading plumbing jobbers in principal cities.

THE DURIRON COMPANY, Inc.
Dayton, Ohio

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and OFFICES

• Top: Colonial Williamsburg Motor House by Tom Lee • Center: Photo in Alcoa Care-free Home • Bottom: Office, Gateway Center, Pittsburgh

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Materials translate the ideas of the artist . . . convert a sketch into the sleek, flowing curves of a bar . . . endow a dining area with the rich, enduring warmth of natural wood grains . . . accent the soft decor of an office with subtle color panels. *These are the uses of Micarta®!* This versatile laminate obliges architect, interior designer, builder and homeowner in many ways—in color, in adaptability to design and, most important, in life-long durability and easy maintenance. Micarta lasts, color-bright, surface unmarred, as long as buildings. Consider Micarta for your next job, on horizontal or vertical surfaces. There are 84 colors, patterns and natural wood *Trugrains®* to choose from.

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PROJECT
St. Johnsbury Trucking Company
Portland, Maine

ARCHITECT
Stewart Associates
Cambridge, Massachusetts

CONTRACTOR
Ellis C. Snodgrass Inc.
Portland, Maine

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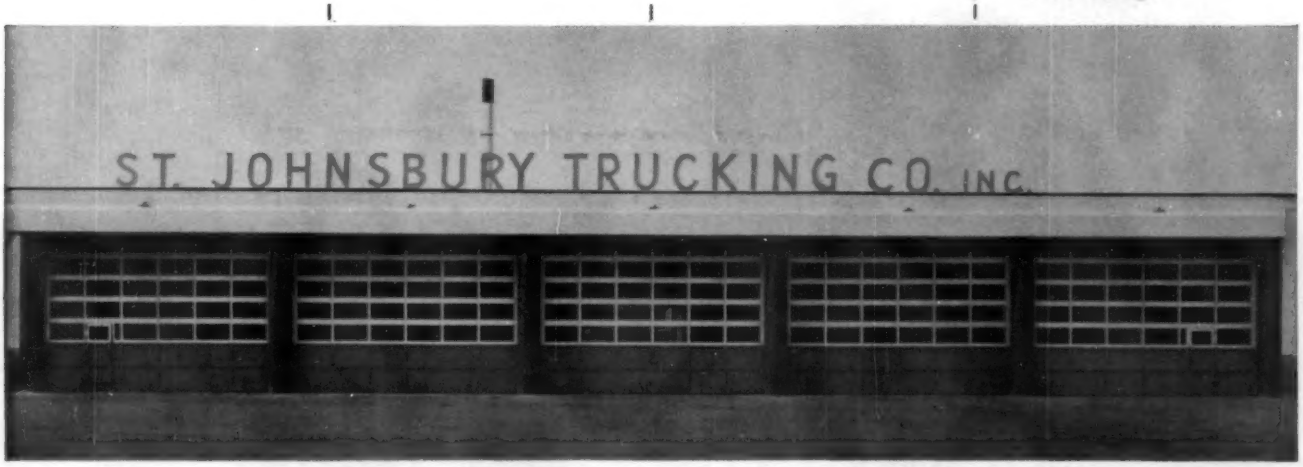

This addition to the St. Johnsbury Trucking Company in Portland, Maine is another outstanding example of the ever-increasing use of Raynor overhead doors in commercial installations. In planning the addition, St. Johnsbury management specified that the 5 loading platform doors be "easy to operate, yet wide enough to accommodate two trucks at a time." The Raynor doors installed are over 20 feet wide . . . they lift easily, will never sag due to the special center support design. The next time your job calls for sturdy and dependable door installations, specify RAYNOR . . . BUILDERS OF A COMPLETE LINE OF WOOD SECTIONAL OVERHEAD DOORS.

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Since 1924 the roof of the Belding Heminway Corticelli Company textile mill in Putnam, Connecticut, has been subject to day-in and day-out cycles of alternate steaming-condensing-drying. Yet the Wolmanized® pressure-treated lumber used for roof decking is as sound and strong as the day it was installed . . . a truly remarkable service record for this versatile structural material!

The buildings you are designing may never "take the beating" the roof decking of this New England textile mill has since 1924. But the facts remain—moisture, condensation, alternate wetting and drying are enemies of *all* structural materials. All, that is, except Wolmanized® pressure-treated lumber!

Wolmanized pressure-treated lumber is the time-tested material that should be specified when wood is subject to high humidities, condensation, masonry contact or used in areas of termite infestation.

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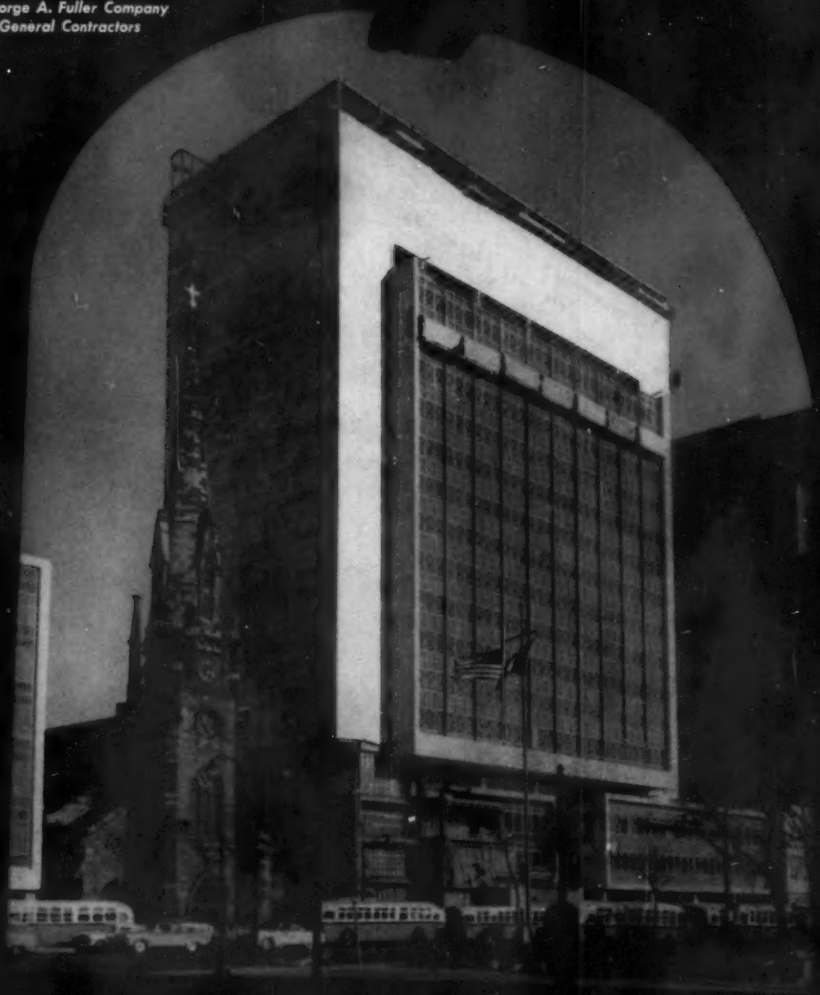

Used in the talked-about buildings and the sought-after homes of today.

For the impressive new Mutual Benefit Life Building in Newark, N. J. . . . subject of favorable comment in the architectural press and national magazines . . . *galvanized steel pipe* was used for vent and drainage lines!

This 10 million dollar, white limestone and green glass insurance company home office building represents the best in contemporary architecture as well as construction techniques and materials.

Again, *steel pipe was first choice* for the vital health lines of an ultra-modern structure because only *steel pipe* combines *all* the desirable factors of lowest material cost, unexcelled strength, acceptability in national plumbing codes, life expectancy equal to that of the building and is available everywhere through more than 6900 distributors.

For the same sound reasons, *galvanized steel pipe* that is used in today's most advanced multi-million dollar structures, is also the sensible selection for the vents and drainage lines of the nation's new homes.

Always specify *galvanized steel pipe* vent and drainage lines for greatest satisfaction.

Only Steel Pipe gives *all* these advantages:

- **Lowest cost with durability**
- **Strength unexcelled for safety**
- **Formable—bends readily**
- **Weldable—easily, strongly**
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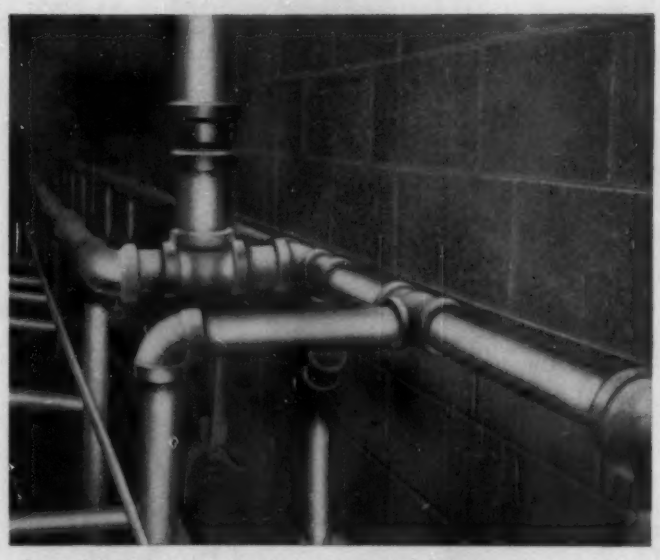
- **Sound joints, welded or coupled**
- **Grades, finishes for all purposes**
- **Available everywhere from stock**



Proof of the integrity of galvanized steel pipe for drainage and vent lines is illustrated by its selection for so many modern new buildings, as in this installation at the great New York Coliseum.

For another of the largest and newest office buildings in the country, galvanized steel pipe was selected for the vent lines in the impressive Socony Mobil Building in New York City.

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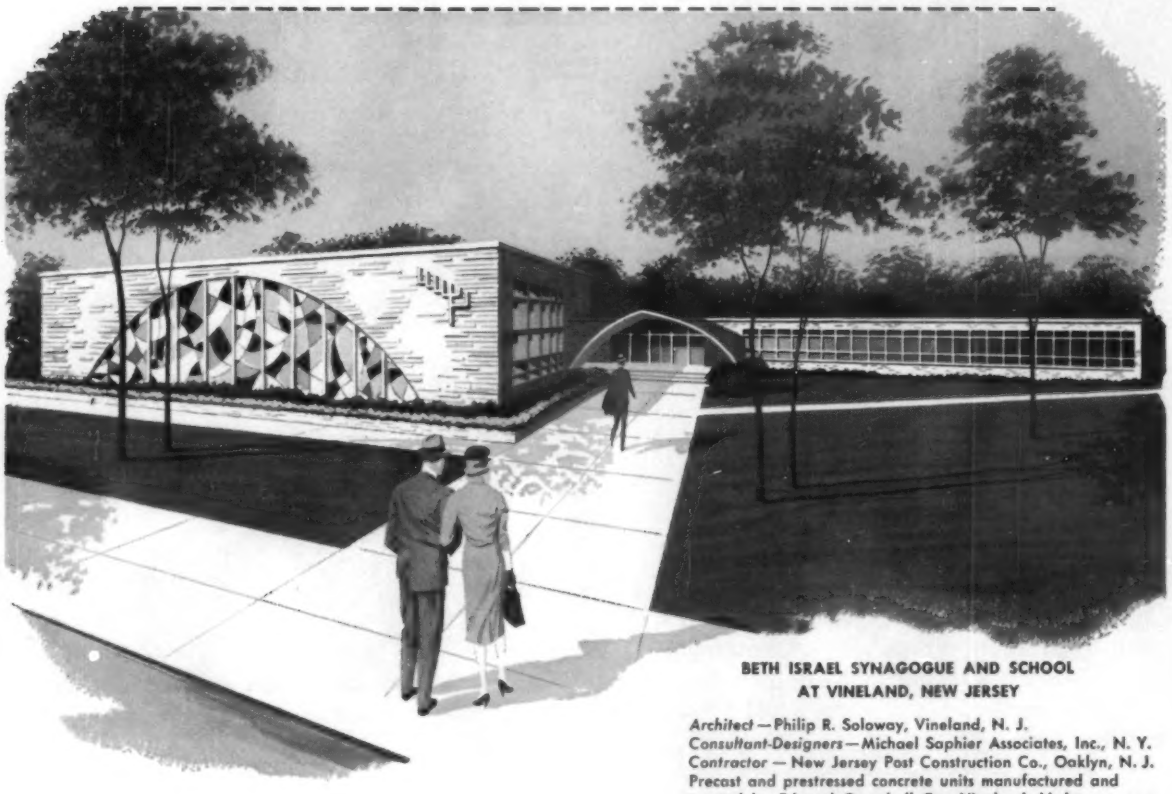

BETH ISRAEL SYNAGOGUE AND SCHOOL AT VINELAND, NEW JERSEY

Architect — Philip R. Soloway, Vineland, N. J.
Consultant-Designers — Michael Saphier Associates, Inc., N. Y.
Contractor — New Jersey Post Construction Co., Oaklyn, N. J.
Precast and prestressed concrete units manufactured and erected by Edward Campbell Co., Vineland, N. J.

Here's why the architects selected prestressed concrete for this attractive synagogue and school

Shown here are Messrs. H. H. Simmons, technical director; L. Lerner, executive vice president; and Michael Saphier, Chairman of the Board, Michael Saphier Associates, Inc.

The Beth Israel Synagogue and School, Vineland, New Jersey, stands today as a structure that was born of what might be considered a collection of conflicting requirements.

H. H. Simmons, of Michael Saphier Associates, Inc., states that "...in designing the synagogue and school we had to think of a material that would be inexpensive, structurally rugged, offer low-cost maintenance and yet have an aesthetic quality."

A large order? Definitely... before the advent of prestressed concrete. The choice of prestressed concrete, however, not only met every requirement admirably, but enabled the contractor to complete the building ahead of schedule.

In a purely aesthetic sense, the architect goes on to say "...in the school wing, where the prestressed concrete slabs were left exposed, the finished appearance of each room has a personal quality which lends to the individual atmosphere of this structure."

Almost daily, evidence is piling up that, whenever you see the words "prestressed concrete," you are bound to see phrases like "low-maintenance," "ahead of schedule," "low-cost," "insurance benefits," in some combination.

As the pioneer of prestressing in this country, Roebling is in an excellent position to state that these and other benefits are more than attendant, they are *inherent*. Data and experience that have developed in this field are immediately available for your information. We will indeed be pleased to furnish you with details on prestressed concrete and tensioning elements. Any means of communication to Construction Materials Division, John A. Roebling's Sons Corporation will bring a prompt response.

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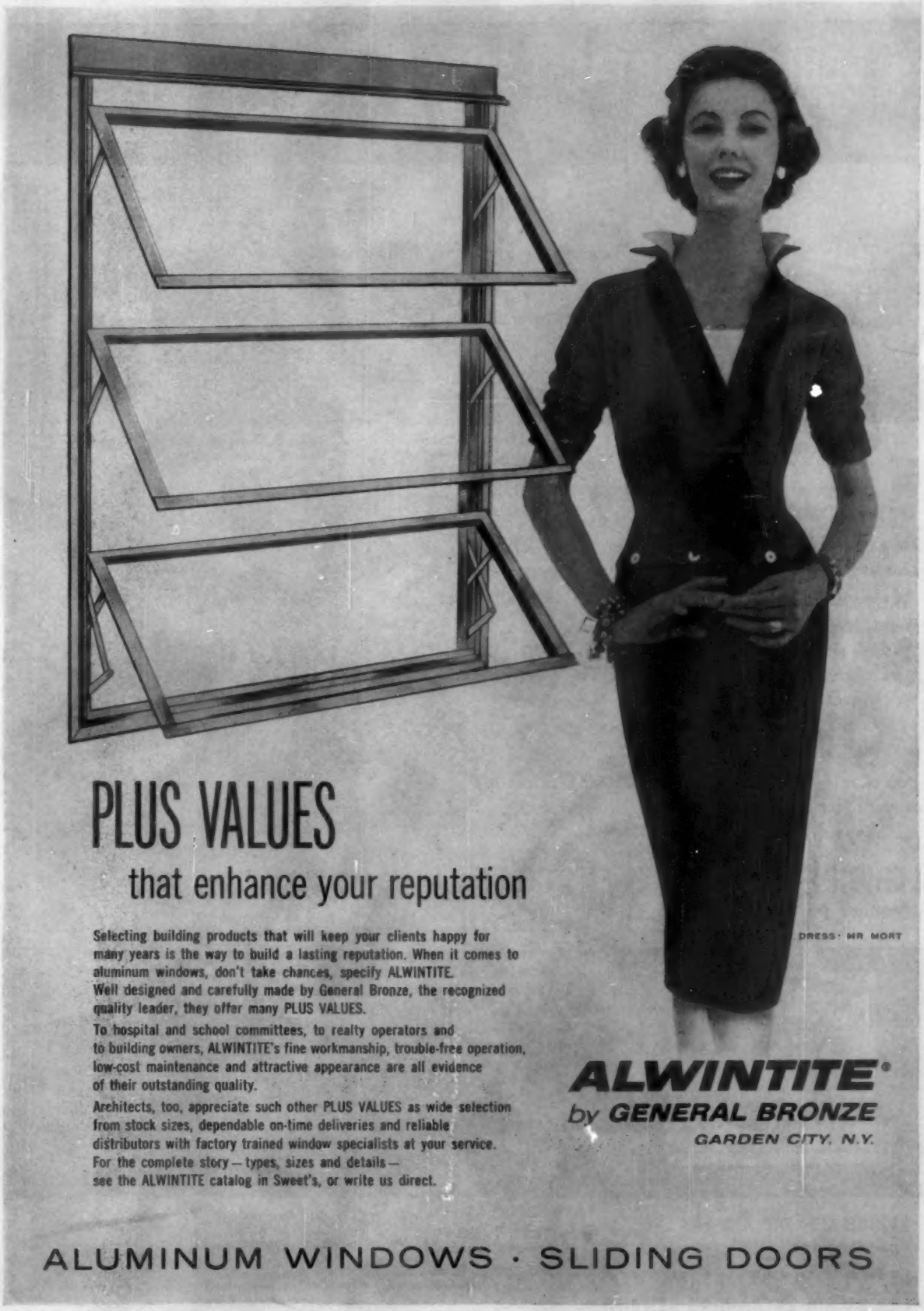
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Modern warehouse, Hubbs & Howe Co., Buffalo, N. Y.
Architect: Walter F. Hebert, Kenmore, N. Y.
Contractor: Balling Bros., Tonawanda, N. Y.

• These three jobs are an indication of the diversity and quality of work for which Balling Brothers, Tonawanda, N. Y. contractors are noted.

Here's what Henry J. Balling has to say about his company's experience with Lehigh Mortar Cement:

"In our 30 years of using prepared mortar—from house chimneys to million-dollar hospitals, schools, churches and industrial buildings—our standard and most reliable mortar has been Lehigh Mortar Cement. We recommend it for brickwork that really stands out with bright joints, freedom from efflorescence, and neatness."

You can approve Lehigh Mortar Cement with the assurance that it exceeds the most rigid Federal and ASTM specifications.

St. Francis of Assisi Church, Tonawanda, N. Y.
Architect: George Dietel & Associates, Buffalo, N. Y.
Contractor: Balling Bros., Tonawanda, N. Y.

LEHIGH PORTLAND CEMENT CO.
Allentown, Pa.

Tonawanda Boy's Club, Tonawanda, N. Y.
Architect: William C. Lurkey, Buffalo, N. Y.
Contractor: Balling Bros., Tonawanda, N. Y.

- **LEHIGH MORTAR CEMENT**
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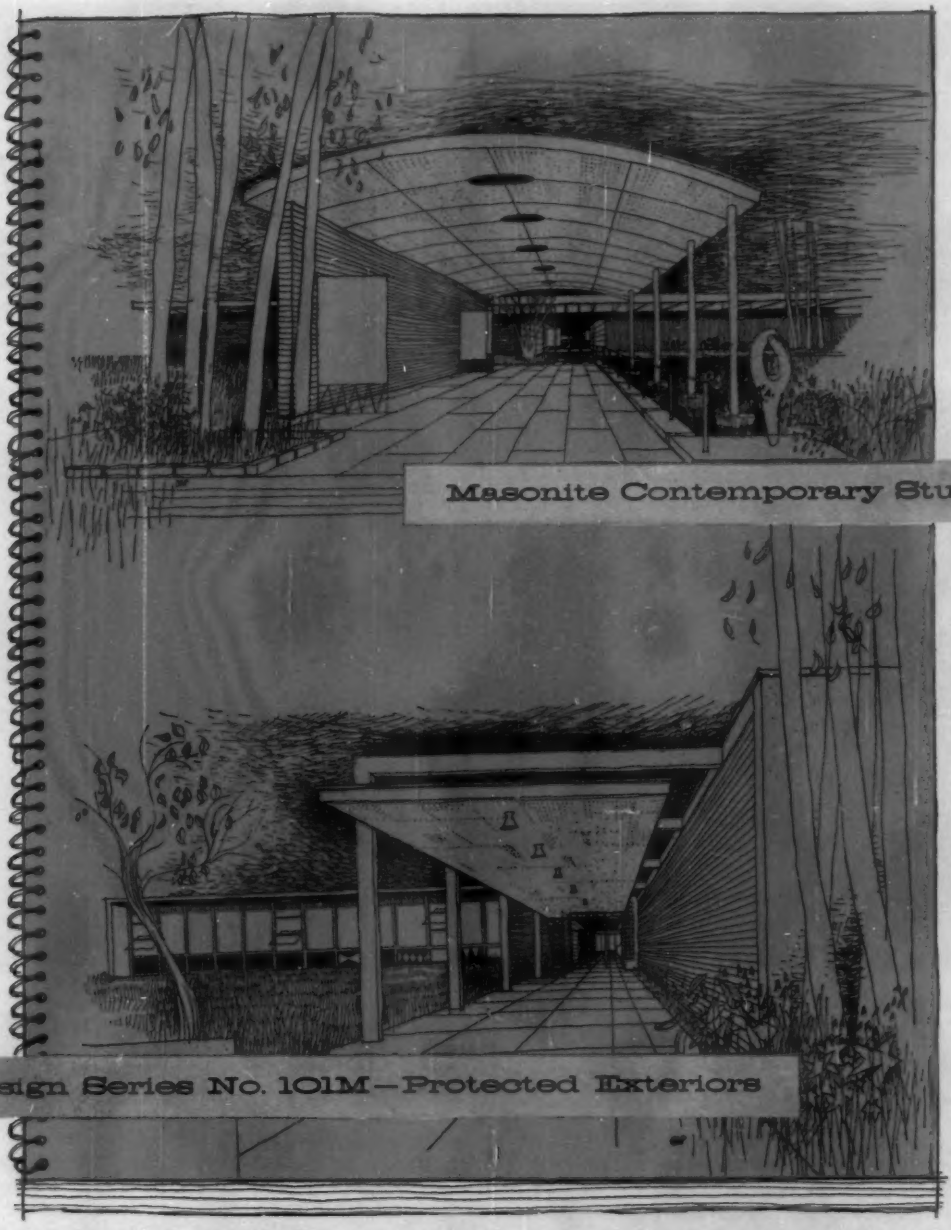

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The critical period for a Portland Terrazzo floor covers the first few weeks after laying. The cement matrix needs time for undisturbed, unhurried curing. During this time, the floor is most vulnerable to stains and marring. Yet—this is precisely the time when most terrazzo floors take severest punishment, as work goes on with the building interiors.

Specify sealing the newly-laid floor with Hillyard **Terrazzine,** to hold the moisture in for slow, complete curing—maximum density and hardness. **Terrazzine** also effectively seals out moisture, grease, dirt, plaster stains. Building paper, burlap, or other protective coverings can be dispensed with.

After final grinding—or in reconditioning old terrazzo — specify finish with Hillyard **Super Onex-Seal.** This builds up the floor's protection against soil, moisture, and traffic — prevents efflorescence in the future — brings out the full natural color of floors which are an integral part of your building design.

The local Hillyard "Maintaineer®", a trained floor treatment specialist, will be glad to serve as your own expert consultant, without charge or obligation.

Ask him to survey the floors on your boards, recommend treatments, serve as your "Job Captain".

Ask him also for A.I.A. numbered files containing Architect's information on treatment of all types of floors, and detailed step-by-step treatment instructions for use by your contractor.

A-2

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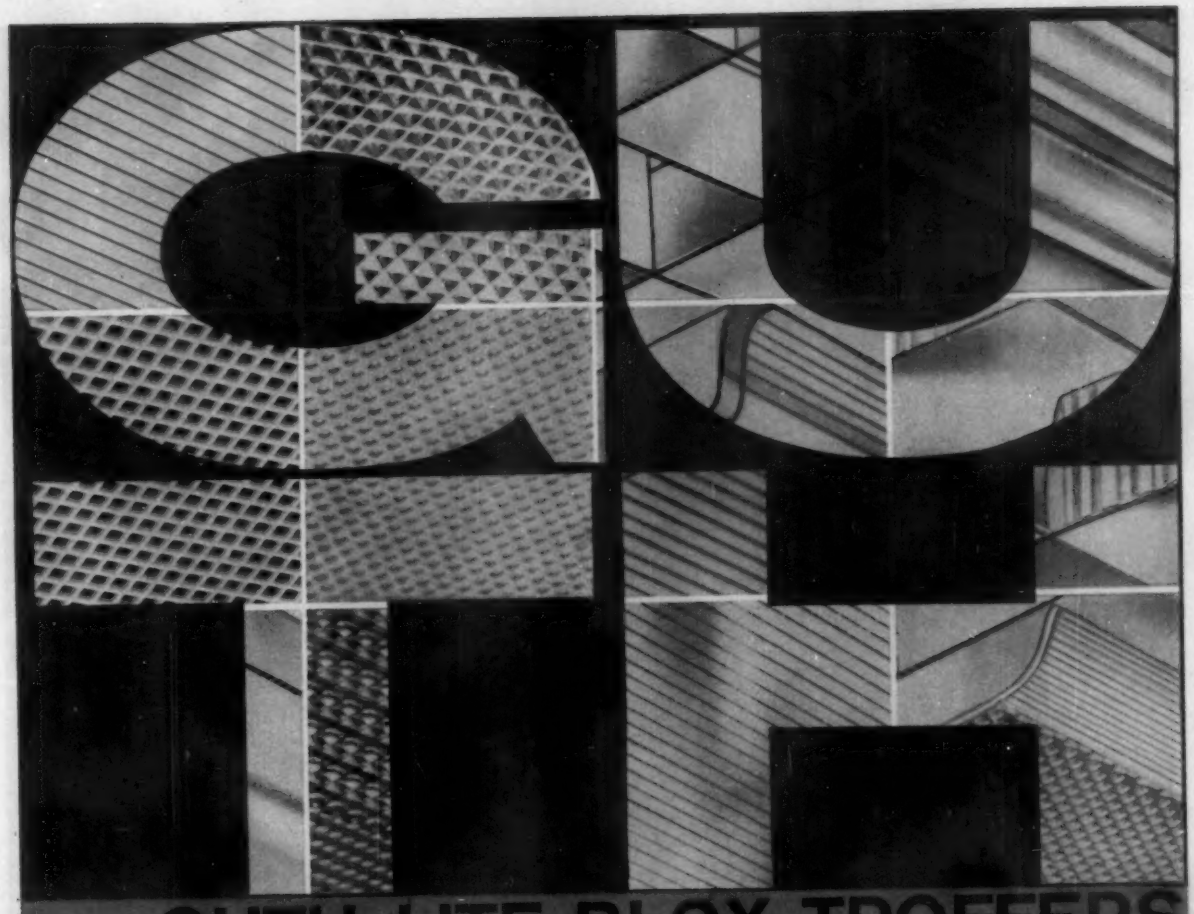

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Guth Lite-Blox troffers are carefully engineered, precision made and cover practically every type of troffer job you can name . . . for almost every ceiling suspension system:

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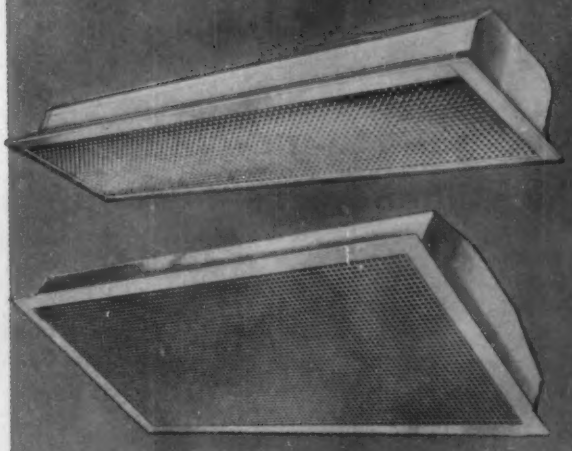

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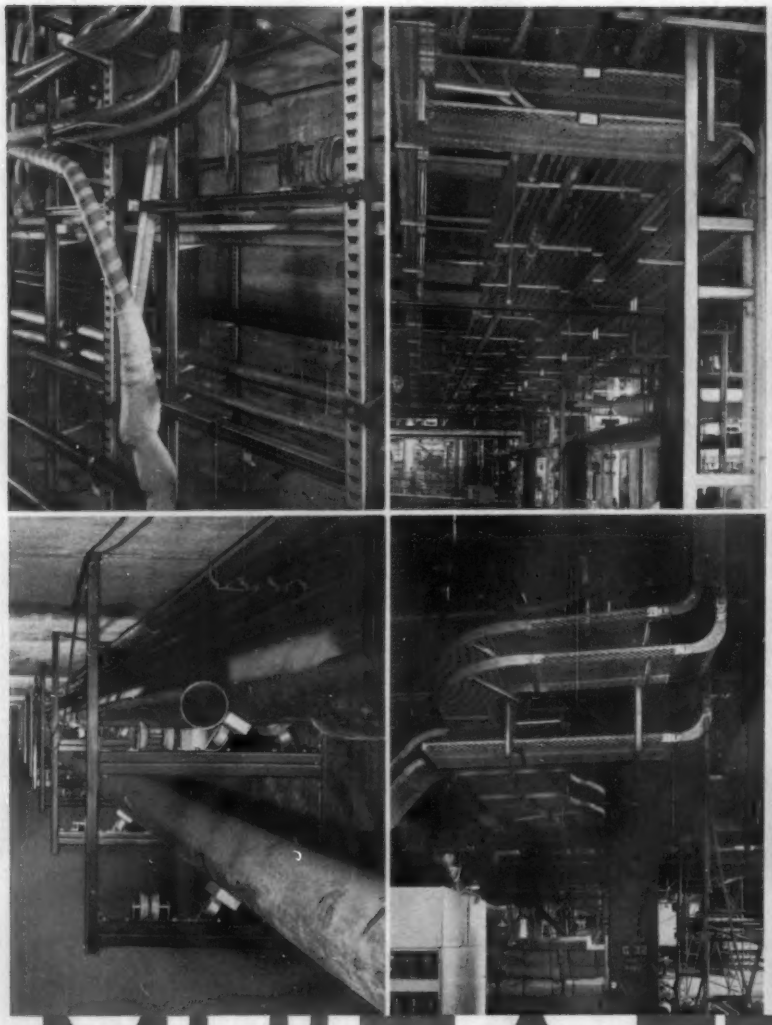

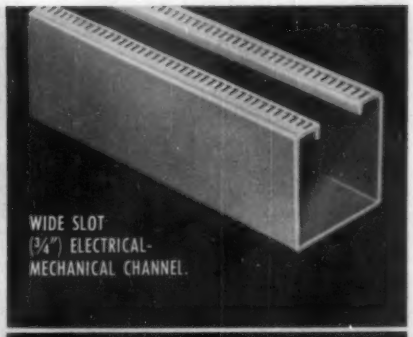

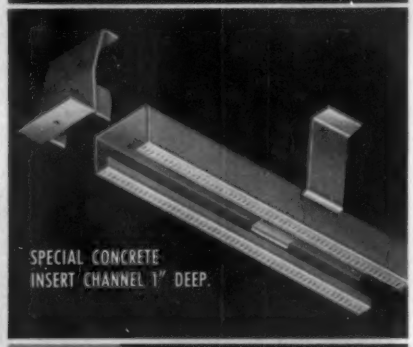

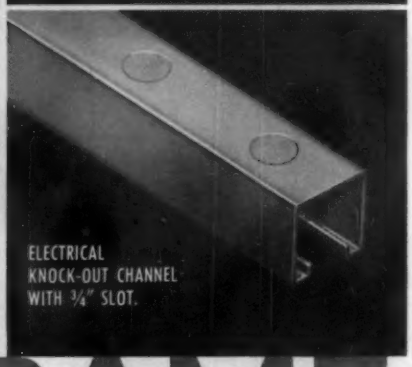

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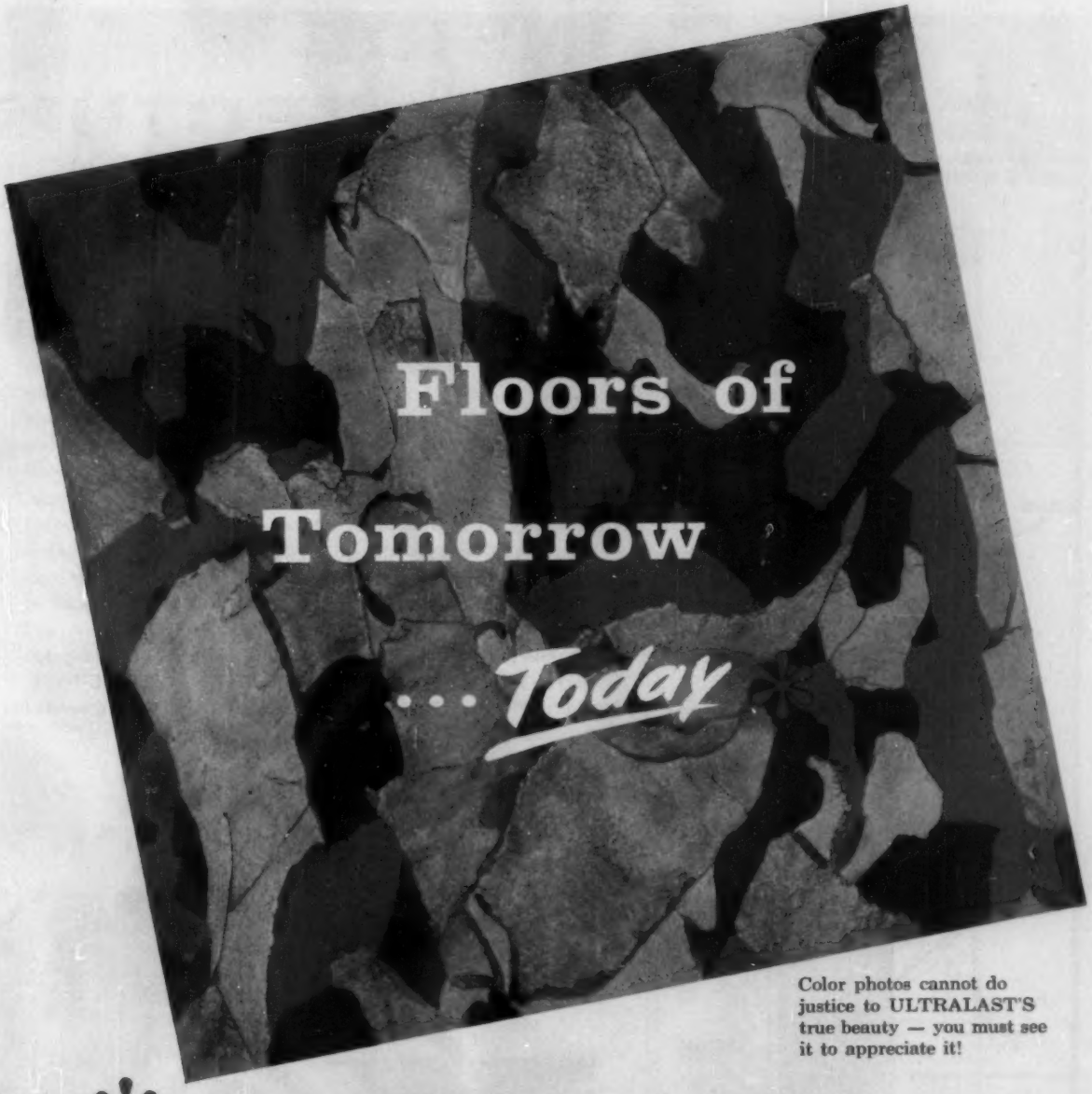

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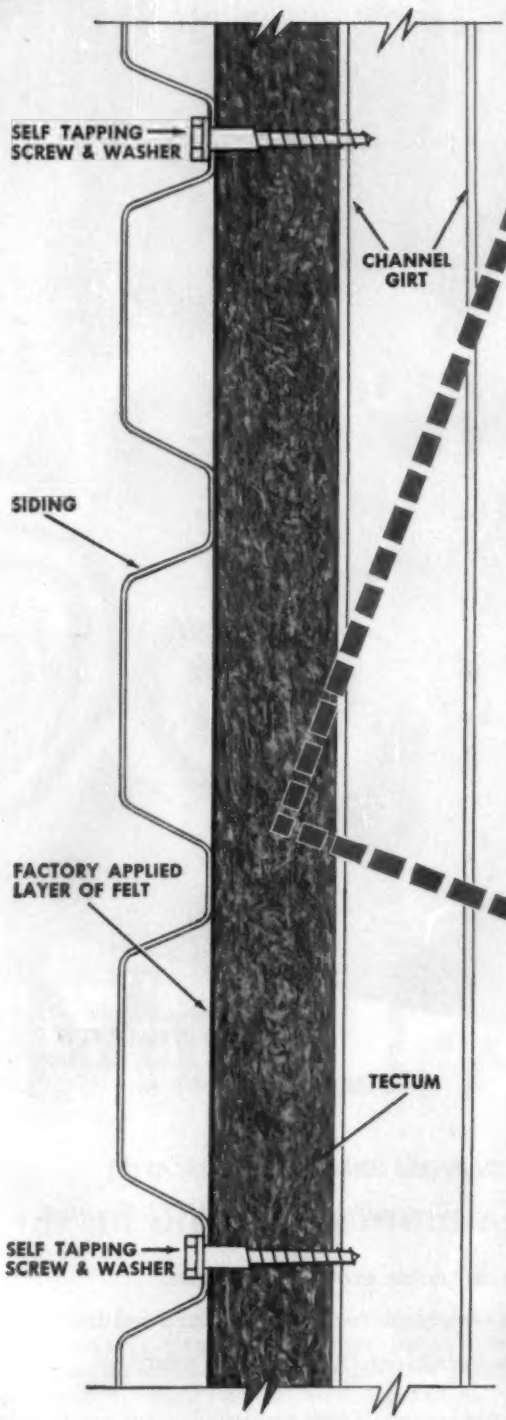

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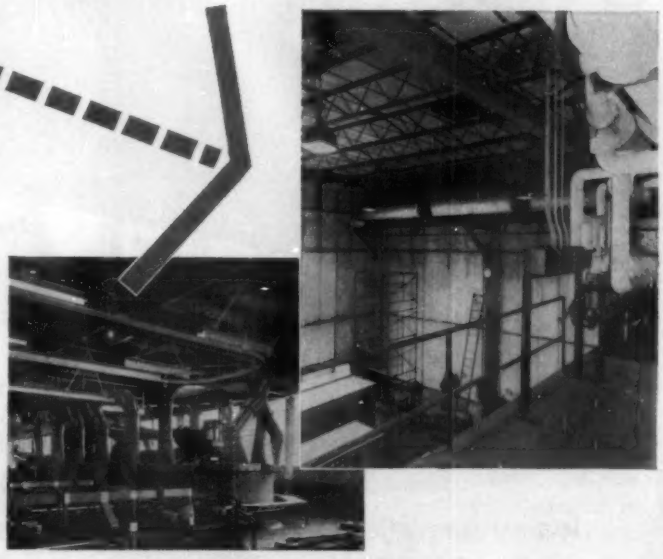

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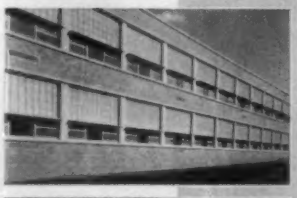
Series 600, Curtain Wall

Michael J. Whalen Junior High School, Hampden, Conn. Architect, Warren Ashley, Hartford, Conn.

A typical Marmet Stock door and Entrance installation

SERIES 1100



Longfellow Junior High School, Wauwatosa, Wis. Architect, Ebling, Plunkett & Keymar Milwaukee, Wis.

SERIES 200

Pacelli High School, Stevens Point, Wis. Architect, Robert W. Surplice, Green Bay, Wis.

SERIES 401

MARMET stock doors and entrances

Marmet's Series 1100 Narrowline door's slim beauty is achieved thru a special deep penetration, Full-Weld process. This "thru-welding" combined with tubular extrusions, provides great strength without clumsy bulk or visible screws. Matching entrance sections are available in a variety of modular sizes... which simplifies the modernization of old entrances as well as fitting components into new construction.

MARMET ribbon windows *ideal for classrooms*

Marmet Ribbon sash with continuous head and sill provides a pleasing, unbroken sweep of line and lowers the labor installation costs. It has many applications where large expanses of glass blocks or other masonry require rigid support. Available in Series 300, and extra heavy Series 200.

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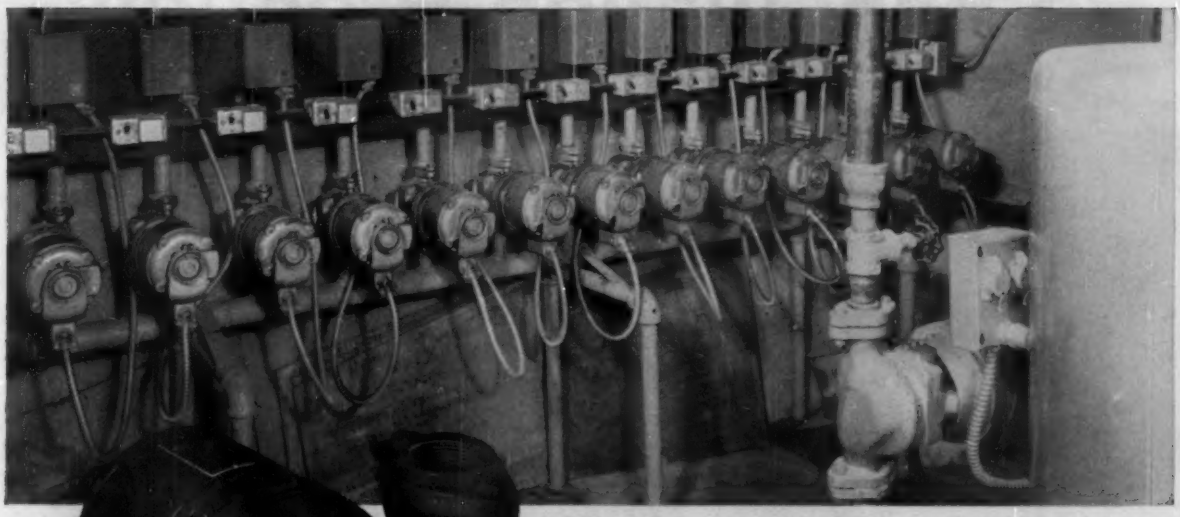


B&G Hydro-Flo System installation in Tulip City Motel, Holland, Michigan

B&G BOOSTER
THE STANDARD OF COMPARISON

The prime requisite of a forced hot water heating pump is *quiet* operation! In this respect the B&G Booster is completely outstanding...in every detail it is designed to eliminate noise.

Motors are specially built units...alloy steel shafts are oversized, affording large bearing surfaces. Extra long sleeve bearings promote smooth, quiet operation and spring-type couplers further dampen noise and vibration. The extremely hard seal positively prohibits water leakage into the bearings.

*Hydronics...the science of heating and cooling with water.

While motel heating is notoriously difficult because of rambling construction and irregular occupancy, the B&G *Hydro-Flo* System provides a practical and economical solution.

The motel illustrated above was originally heated with individual room space heaters. Two years ago the heating method was completely revamped by installing a B&G *Hydro-Flo* System with baseboards as the heat distributors. Each of the rooms is on a separate zone, served by a thermostatically controlled B&G Booster. The owner reports a great improvement in comfort, with temperatures properly controlled and operating costs low.

The versatility of water as both a heating and cooling medium—its ability to provide the ultimate in comfort and convenience at low cost—its flexibility, offers a sound solution to the comfort problem in every type of residential, commercial and industrial building.

Hydro-Flo SYSTEM

BELL & GOSSETT

Reg. U.S. Pat. Off. COMPANY

Dept. FE-32, Morton Grove, Ill.

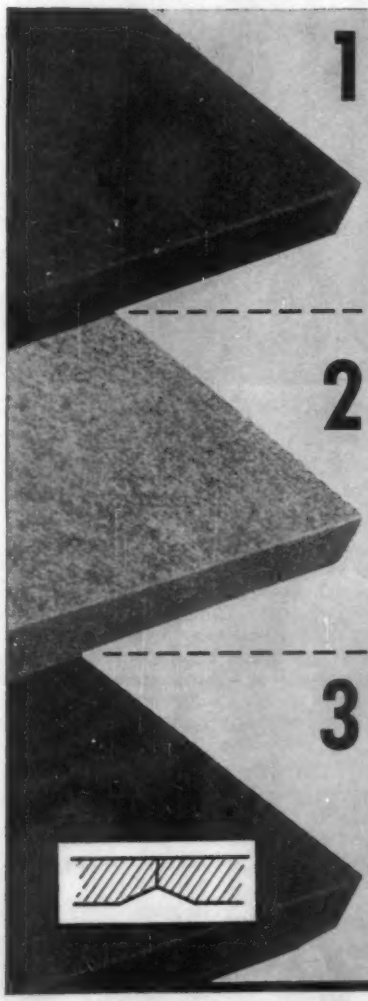
Canadian Licensee: S.A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

Only **CELOTEX** gives you the

Big 3

Roof Insulation Products

with all these Performance Advantages



1 PRESEAL

Asphalt coating on sides and edges protects against moisture pickup at job site; also provides excellent surface for mopping and bonding to deck or felt with either asphalt or pitch.

2 REGULAR

For 35 years the recognized standard in roof insulation where lowest cost is important. Meets or exceeds all applicable Specification Standards. Natural, textured surface makes strong bond with pitch or asphalt.

3 CHANNEL-SEAL

Asphalt-coated board featuring bevels on deck-side edges, forming a network of connecting channels across the entire roof area. Channels are means of equalizing air pressure between roofing and deck, thus minimizing any pressure build-up and hazard of roofing blisters.

- ✓ Rugged—hard to damage
- ✓ Clean-cut snug-fitting edges
- ✓ Smooth solid base for felts
- ✓ No worry about punctures or depressions that become weak spots under felt
- ✓ Withstands heavy traffic
- ✓ Strong, rigid, crush-resistant
- ✓ Uniform density and thickness
- ✓ Permanent, efficient insulation
- ✓ Over 30 years job-proved service
- ✓ Billions of feet in use

All three products available in a complete range of Conductances (C-values).

•

See 1958 Sweet's Architectural File, Catalog 10a-Ce. Write for Specifications, Samples, Information Manual.

CELOTEX ROOF INSULATION

REG. U.S. PAT. OFF.

THE CELOTEX CORPORATION, 120 SOUTH LA SALLE STREET, CHICAGO 3, ILLINOIS

2 great names combine

EMERSON pryne

to bring you the world's best in...

SPOT VENTILATION

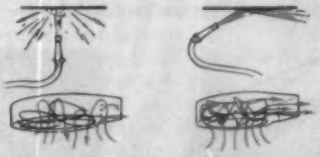
ONLY *Blo-Fan* EXHAUST VENTILATORS ARE SO EFFICIENT

Blo-Fan *means power of a* **BLO***wer plus volume of a* **FAN**

The exclusive, patented Blo-Fan blade has been especially engineered to combine the best features of a "squirrel cage" BLOwer and the best features of a propeller FAN.

Blo-Fan housings are only 3¼" thick to allow installation behind the plaster on standard 2"x 4" studs. Pre-wired built-in splice box permits easy electrical connection. 3¼"x 10" duct is used to carry exhaust air to the desired external fitting.

Made in five models to fit every application, the Blo-Fan scoops up air in great volume and forcibly exhausts it with all the power of a blower to achieve greater performance efficiency than any comparable fan. All models have built-in automatic damper to prevent back-drafts. Attractive die cast grilles are made of rust-proof genuine polished chrome.



ORDINARY "PROPELLER" ACTION

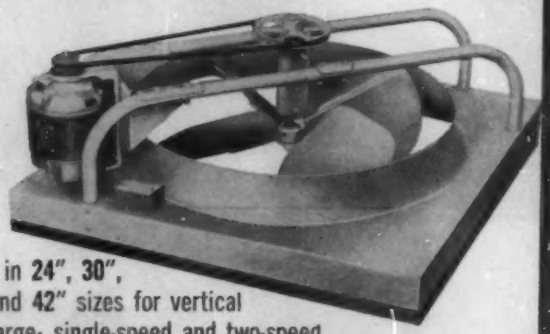
BLO-FAN "BLOWER" ACTION

Forced air, like water, must be directed to prevent "back wash"... and only the Emerson-Pryne Blo-Fan operates with full efficiency.

COMPLETE HOME COOLING

Now give your customers "AIR COOLED" homes with EMERSON-PRYNE...

ATTIC EXHAUST FANS



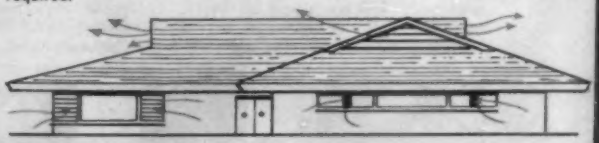
Made in 24", 30", 36" and 42" sizes for vertical discharge; single-speed and two-speed

Emerson-Pryne attic fans with their quiet vibration-free operation, certified air deliveries, ball-bearing construction and 5-year guarantee are priced to meet the budget requirements of project builders.

Home buyers prefer Emerson-Pryne attic fans, because these nationally-known, ruggedly built fans give many years of maintenance-free summer comfort at low operating cost.

Built-in lifetime lubrication—ball bearings on fan shaft and motor require no relubrication.

Simple installation—rubber channels on bottom edge of fan frame rest on wood framing above ceiling opening. No plenum chamber (suction box) required.



Emerson-Pryne attic fans provide the ideal answer to low cost home cooling. Properly installed a single attic fan can assure rapid and complete home cooling—or individual room air change can be easily controlled simply by closing doors and windows.

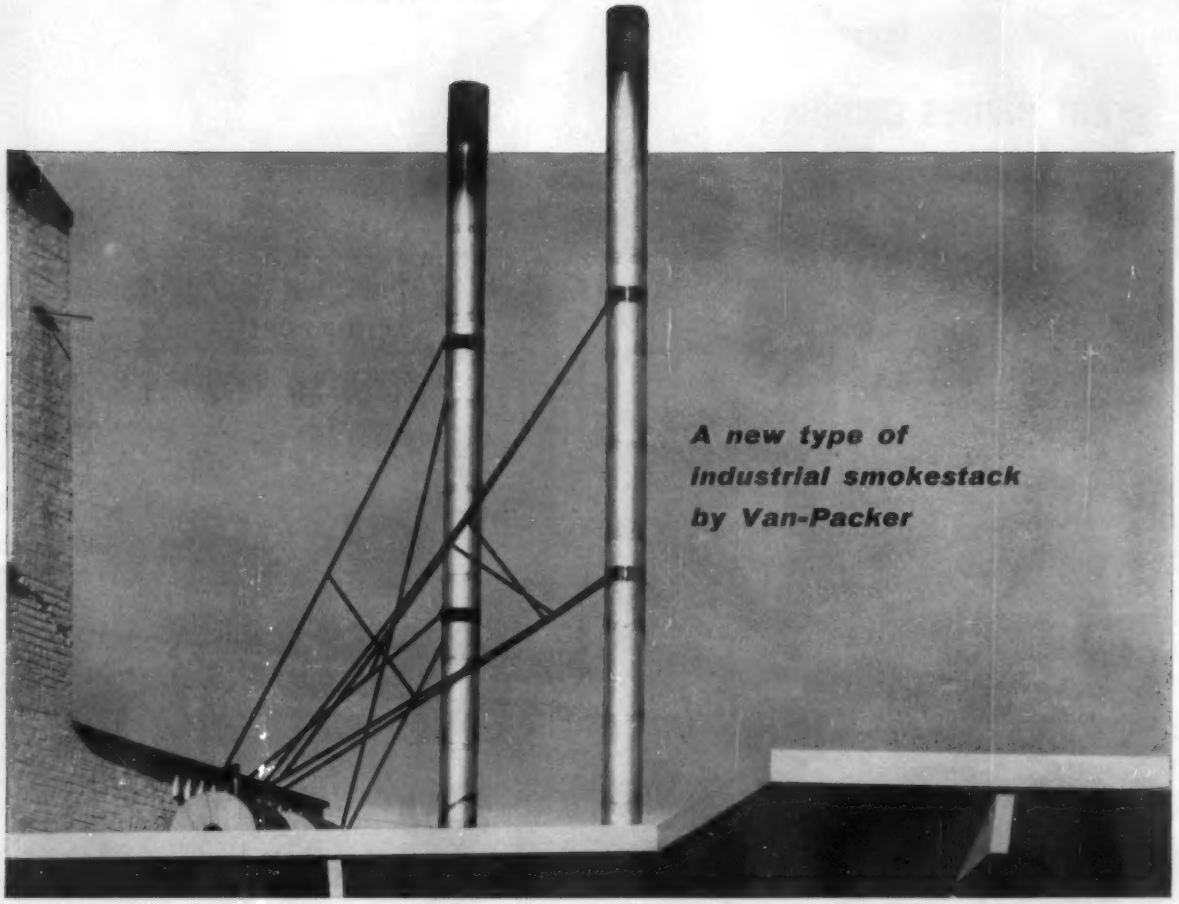
Low initial cost plus fast, easy installation makes it possible for you to offer home owners this sales-winning convenience feature at prices well within your building budget.

World's leader in / EXHAUST FANS · EXHAUST BLOWERS · ATTIC FANS · AIR CIRCULATORS
KITCHEN HOODS · CEILING HEATERS · RECESSED LIGHTING FIXTURES

EMERSON pryne COMPANY

POMONA, CALIF. · KEYSER, W. VA.
ST. LOUIS, MO. · TORONTO, CANADA

A DIVISION OF THE EMERSON ELECTRIC MFG. CO., ST. LOUIS, MO.



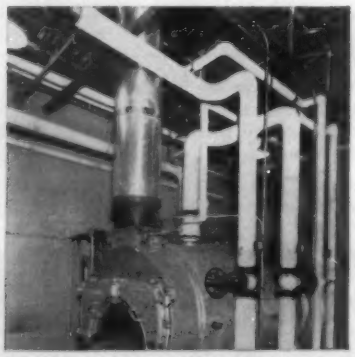
Get longer stack life at lower cost

Permanent construction — Because the Van-Packer is made of non-corroding refractory material it will outlast a steel stack as much as three times. The aluminum jacket which encases each stack section eliminates maintenance.

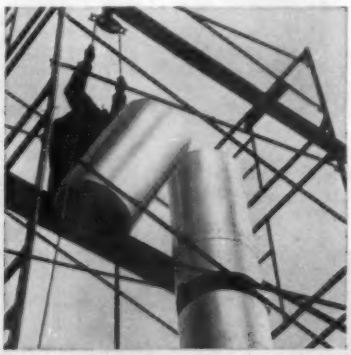
Low Cost — The Van-Packer costs no more than a steel stack, and only 1/3 as much as brick. Other savings result from fast installation, savings on maintenance, and long life. Handles all fuels for boilers, furnaces, incinerators.

Prefabricated refractory sections—Centrifugally-cast 3-foot sections combine the economy of a steel stack with the permanence and high draft of a brick stack. Seven diameters from 10-inch ID to 30-inch ID.

Available nationwide — Van-Packer Stack is available through local Van-Packer Jobbers and Special Representatives. See "Chimneys — Prefabricated" in Yellow Pages, or write Van-Packer for Bulletin IS-32-54.



Van-Packer Stack with Standard Sections handles boilers and furnaces efficiently. Can be superimposed or floor supported.



Installing this stack is quick and easy. Three-foot sections are simply cemented atop one another with acid-proof cement.

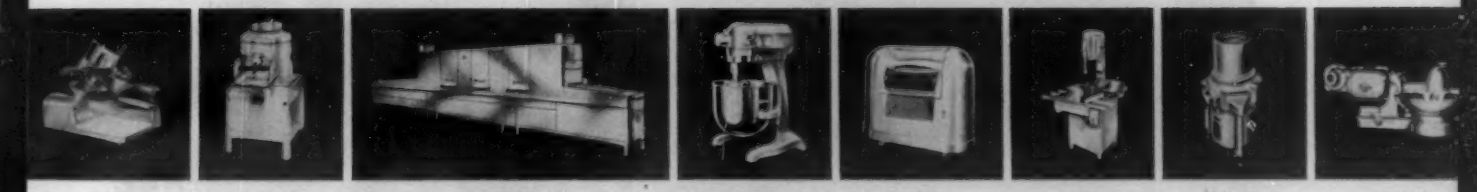
Van-Packer Hi-Temp Stack handles incinerators with flue gas temperatures up to 2000° F. without corroding.

Van-Packer PREFABRICATED REFRACTORY **Stack**

Van-Packer Company • Division of the Flintkote Company
P. O. Box No. 306, Bettendorf, Iowa • Phone East Moline, Ill. 3-5288

Sweet's

make your kitchen layouts work!



1512 6230 FT-26 A-200 401 5413 FW-150-4 84141

An easy way to guarantee your kitchen designs is to say HOBART when you specify the food, kitchen and dishwashing machines that complete your layouts.

There are several distinct advantages to all concerned in specifying Hobart machines: one source of supply for all machines with local representation as near as the phone; a broad line that offers a variety of sizes, styles and capacities—layout flexibility; the backing of a manufacturer who has earned a reputation for building quality equipment over a span of 60 years.

When you specify Hobart, you are specifying equipment that is preferred by chefs and kitchen managers. Ask the man who has used Hobart machines...he'll tell you of their ruggedness, smoothness and economy of operation, and the unequaled dependability of Hobart-built motors—outstanding design and sanitation features.

As an architect you can appreciate these facts. Check Sweet's Architectural File for complete specifications and capacities on all Hobart kitchen and dishwashing machines. Or send the coupon for detailed specifications.

Hobart
machines

The World's Largest Manufacturer of Food, Kitchen and Dishwashing Machines

The Hobart Manufacturing Co., Dept. HAR, Troy, Ohio

Please send information and specifications on Hobart Food Cutters ☐, Dishwashers ☐, Glass Washers ☐, Mixers ☐, Peelers ☐, Meat Saws ☐, Slicers ☐, Tenderizers ☐, Food Waste Disposers ☐.

Name of Firm.....

My Name.....

Address.....

City.....*Zone*.....*State*.....

A SCHOOL UNDER ROOF IN JUST A FEW DAYS

WITH V-LOK

TRADE MARK REGISTERED

INTERLOCKING STRUCTURAL MEMBERS

ROBERT BEATTY, A.I.A., ARCHITECT
EAST LIVERPOOL, OHIO

THE FINEST STRUCTURAL QUALITY-MORE SCHOOL PER DOLLAR-MORE VOLUME FOR YOU

WRITE FOR V-LOK DESIGN MANUAL

MACOMBER CANTON 1, OHIO

NAILABLE V-BEAMS | V-GIRDERS | V-LOK STEEL FRAMING | METAL DECK | V-BOWSTRING TRUSSES

Architect: Mies van der Rohe
Associate Architect: Friedman, Alschuler & Sincere
Gen. Cont.: Herbert S. Greenwald
Plumbing Contractor: Economy Plumbing & Heating Co.
Plumbing Wholesaler: Amstan Supply Division of American Radiator and Standard Sanitary Corp.

The new, six building luxury apartment project to be known as 900 Esplanade and Commonwealth Promenade will have FIAT *PreCast Shower Floors in every shower. Added proof that products by* FIAT *set the standards of shower quality.*

THE Plus IN 1238 Plush APARTMENTS

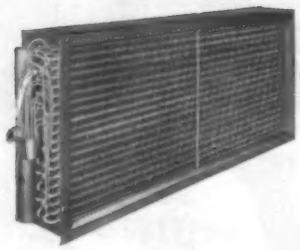
FIAT PreCast SHOWER FLOORS

Only the best is good enough on Chicago's fabulous "Gold Coast"

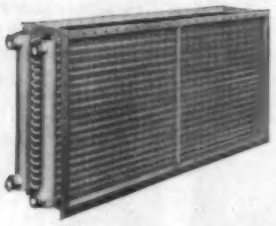
FIAT Shower Floors permanently answer the problem of shower floor leakage and high costs. Less product cost, less labor cost and less maintenance costs are the benefits of FIAT'S one-piece unit cast in a solid, monolithic slab with genuine marble chips. The FIAT PreCast Shower Floor is simply placed into position and lead caulked to the drain outlet. Once this simple, fast, inexpensive job is completed, the shower wall may then be built of any type material desired; plastic or ceramic tile, marble, plaster or structural glass.

Send for specifications on the complete range of styles and sizes.

FIAT METAL MANUFACTURING CO.
9329 W. Belmont Ave. • Franklin Park, Illinois
Since 1922...First in Showers / *Packaged Showers • Doors • Floors Toilet Room Partitions*
OTHER COMPLETE PLANTS: Long Island City 1, N. Y.; Los Angeles 63, Calif.; Orillia, Ontario, Canada

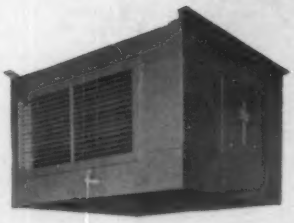


McQuay Direct Expansion coils have the exclusive Ripple-Fin and staggered tube construction for maximum heat transfer, strength and rigidity. Made in an exceptionally wide variety of sizes, styles and capacities to meet the requirements of every application.



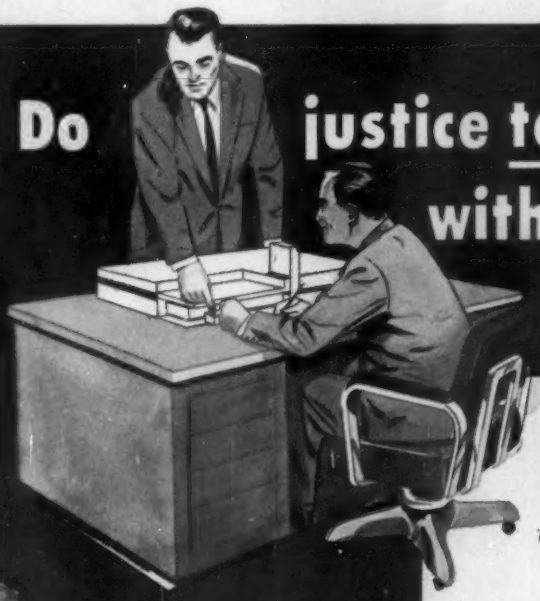
McQuay Water Cooling coils are available in a wide variety of sizes, styles and capacities, 1 to 10 rows. Staggered tubes and rippled fins create air turbulence to give maximum air side heat transfer. Mechanical expansion bond insures permanent metal to metal construction.

Floor Type Seasonmaker for free standing floor mounting. 4 sizes, 200 cfm to 600 cfm, ½ to 2 ton nominal cooling capacity. Thermally and acoustically insulated. Choice of 3 air discharge grilles. Basic type for fully recessed applications is also available.



Ceiling Type Seasonmaker. For suspended mounting. Seven sizes from 200 cfm to 2000 cfm, ½ to 5 ton nominal capacity. Thermally and acoustically insulated. Designed for multi-room buildings. All units have the famous McQuay Ripple-Fin coils.

Do justice to air conditioning with these true-rated



When you use McQuay coils or air conditioning units, you can be sure your air conditioning, heating or cooling system, will perform at its very best—that it will deliver its true-rated capacity and produce the results for which it was designed.

There is no substitute for quality—no substitute for experience. McQuay gives you both, backed by the research for which McQuay is famous.

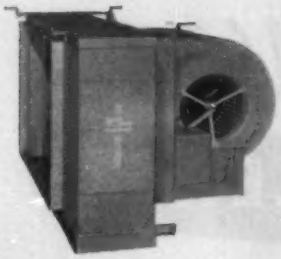
To do true justice to air conditioning, use true-rated McQuay coils and units. There is a coil and a unit especially designed for every conceivable purpose, a size for every need. And thousands of McQuay installations are constant proof of McQuay know-how.

There is a McQuay representative in or near your city, or write McQuay, Inc., 1605 Broadway Street N.E., Minneapolis 13, Minnesota.

[redacted] Means Quality

Vertical Seasonmaster Central Station Air Conditioner.

Horizontal Seasonmaster Central Station Air Conditioner.



Hideaway Type Seasonmaker. For concealed suspended mounting. Seven sizes from 200 cfm to 2000 cfm, ½ to 5 ton nominal capacity. Will furnish individual room comfort at any desired temperature, —heated, filtered air in the winter; cooled, dehumidified and filtered air in the summer.

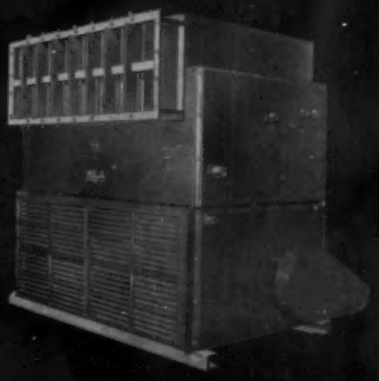
"AR" Residential AIRCON. Remote type air cooled condenser designed for extra quiet operation as required in residential applications. It will operate efficiently with R-12 or R-22 compressors without the use of water. Available in 2, 3, 5, and 7½ ton nominal capacities.

"AB" Belt Drive AIRCON. Remote, waterless condenser available in eight sizes—9, 11, 15, 20, 25, 30, 40 and 50 ton nominal capacities in individual units. Lifetime ball bearing and slow speed propeller type fan. Type "AD" Aircons are also available in 2, 3, and 5 ton nominal capacities.

McQuay coils and units

"RH" Air Conditioner. Water and direct expansion models in four sizes from 1000 cfm to 3000 cfm. Heating coils for use with steam or hot water and cooling coils for use with water or Freon available to provide year 'round operation. Can be installed in an adjacent area if needed.

Horizontal Multi-Zone Air Conditioning Unit. Outside weather conditions, or inside requirements may make it necessary to heat some sections of a building at the same time that other sections require cooling. Ten sizes from 1370 cfm to 29000 cfm. Available with 6 to 22 zones.



Vertical Multi-Zone Air Conditioning Unit. Specifically designed for simultaneous heating and cooling. Eight sizes from 1370 cfm to 21000 cfm. This unit is so constructed that it can deliver to any one of many different zones in a building, either cooled, filtered dehumidified air, or heated, filtered and humidified air, or a mixture.

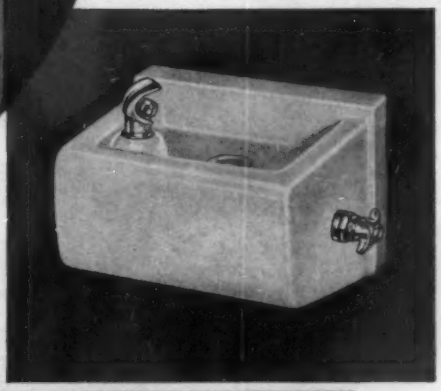
McQuay INC.

AIR CONDITIONING
HEATING
REFRIGERATION

NEW KOHLER *Drinking Fountains*

Millbrook, K-5264-A

Saybrook, K-5260-A

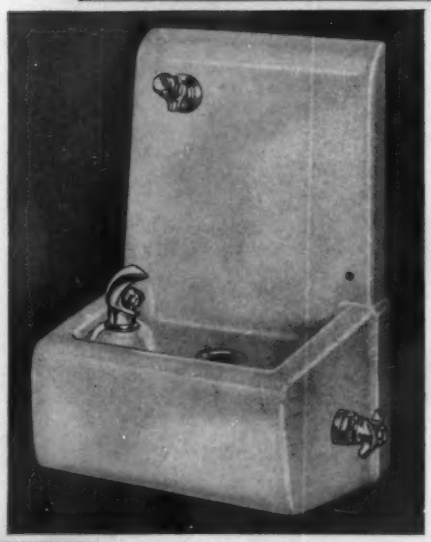


Advanced in design and convenience

The new Kohler drinking fountains, of sparkling, easy-to-clean vitreous china, harmonize form and proportion with precise functional fitness—in keeping with today's architectural trends.

Compact bubblers are placed conveniently at the user's left, with openings well above the fountain rims. They provide a sanitary drinking mound of the right height and angle for drinking ease. Automatic volume regulator maintains uniform flow under varying pressures. Self-closing valve is adjustable for continuous flow. Bubbler heads are non-squirting; metal guard protects against mouth contact. Brass condensation plate prevents collection of moisture, eliminates dripping.

Kohler drinking fountains are easy and economical to maintain, and conform to health regulations of all states. Available in white and colors. Fittings are all-brass, chromium-plated.



Highbrook, K-5268-A,
with push-button glass filler.

•

KOHLER CO.
Established 1873
KOHLER, WIS.

KOHLER OF KOHLER

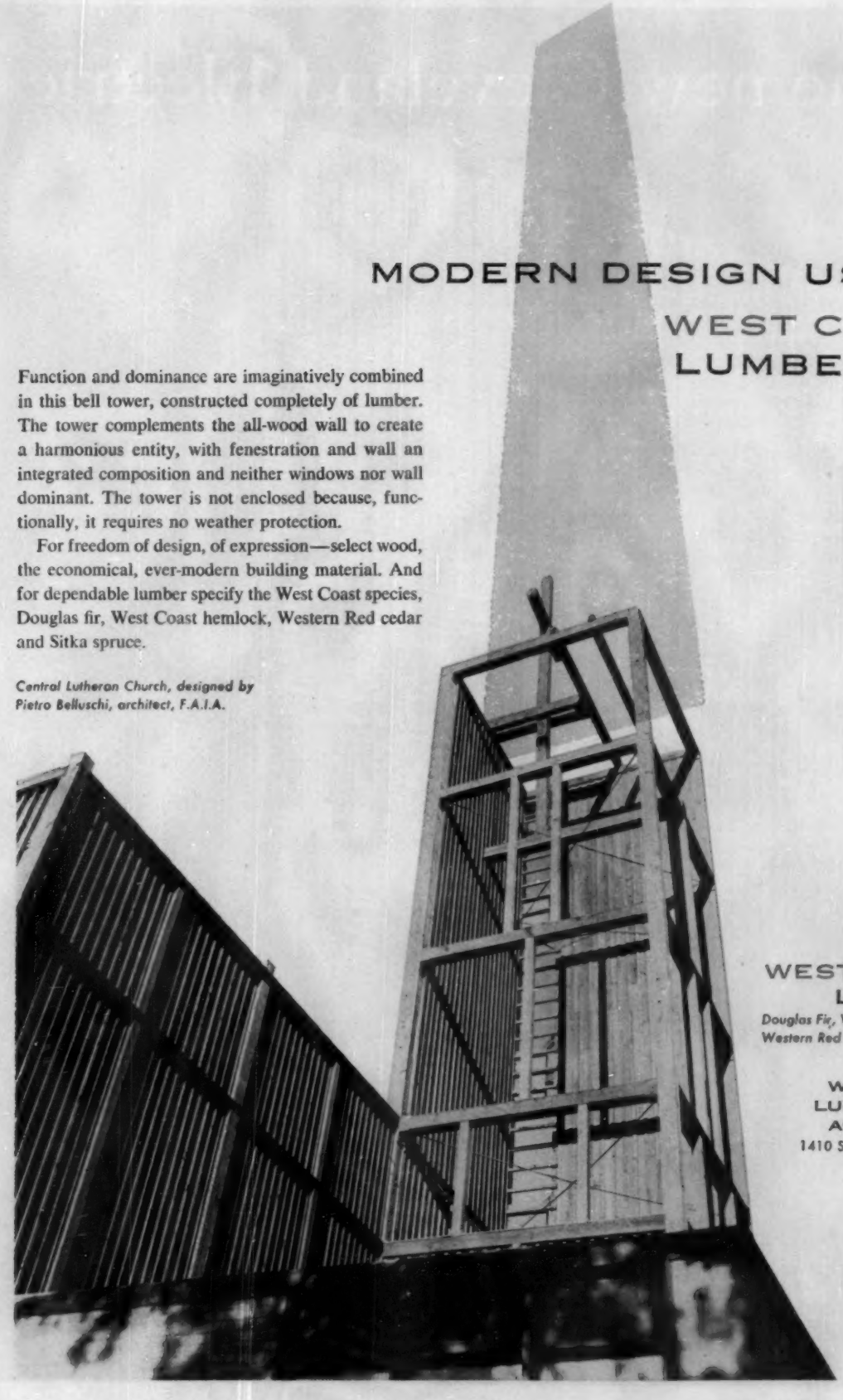
Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings
Electric Plants • Air-cooled Engines • Precision Controls

MODERN DESIGN USES WEST COAST LUMBER

Function and dominance are imaginatively combined in this bell tower, constructed completely of lumber. The tower complements the all-wood wall to create a harmonious entity, with fenestration and wall an integrated composition and neither windows nor wall dominant. The tower is not enclosed because, functionally, it requires no weather protection.

For freedom of design, of expression—select wood, the economical, ever-modern building material. And for dependable lumber specify the West Coast species, Douglas fir, West Coast hemlock, Western Red cedar and Sitka spruce.

Central Lutheran Church, designed by Pietro Belluschi, architect, F.A.I.A.

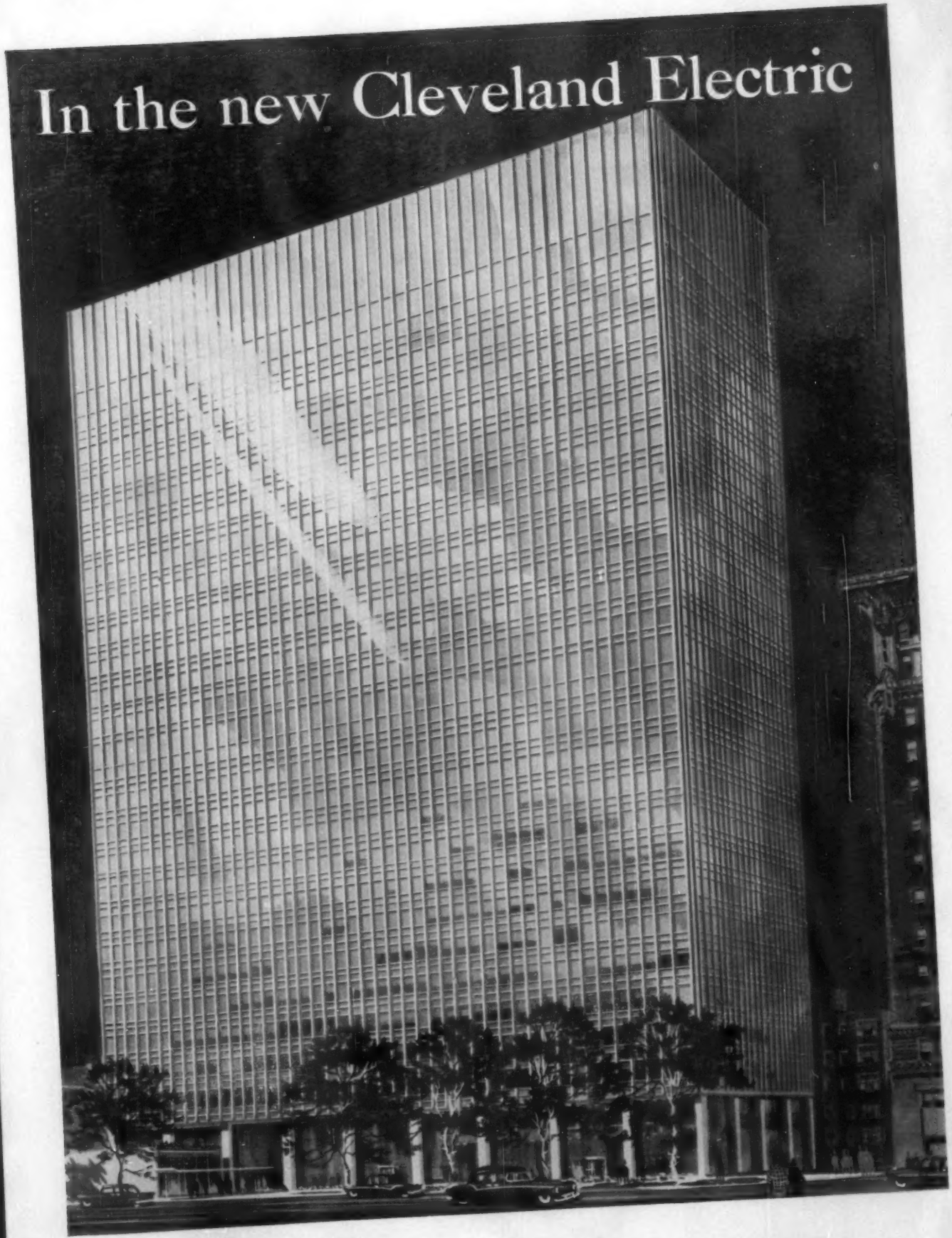


WEST COAST LUMBER

Douglas Fir, West Coast Hemlock, Western Red Cedar, Sitka Spruce

WEST COAST LUMBERMEN'S ASSOCIATION
1410 S.W. Morrison Street
Portland 5, Oregon

In the new Cleveland Electric



Illuminating Company Building
concrete joist floors are reinforced with
American Welded Wire Fabric

Owner: 55 Public Square, Inc., Cleveland, Ohio
Architects: Carson and Lundin, New York, New York
Associate Engineer: McGeorge, Hargett and Associates, Cleveland, Ohio
General Contractor: George A. Fuller, New York, New York
Concrete Contractor: George Paverini, New York, New York

REMEMBER CLIENTS WILL ASK
"is it Reinforced"

95 TONS OF REINFORCEMENT—American Welded Wire Fabric Reinforcement—were used in the concrete joist floors of the new Cleveland Electric Illuminating Company Building in Cleveland, Ohio. American Welded Wire Fabric gave the thin topping slab of the concrete joist floors extra tensile strength to resist temperature and flexural stresses. It makes a strong, durable floor . . . and is extremely easy to install.

THE HIGH-YIELD-STRENGTH STEEL MEMBERS, closely spaced in American Welded Wire Fabric, also effectively distribute any unusual concentrated load that might occur between joists.

Write for complete technical information about Welded Wire Fabric, Super-Tens Stress Relieved Wire and Strand for prestressed concrete, and other quality construction materials manufactured by American Steel & Wire.

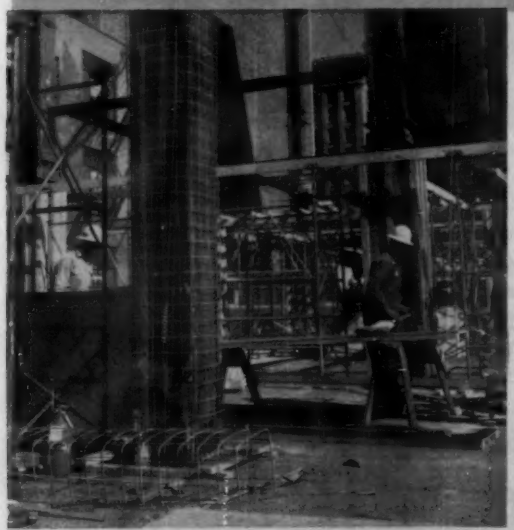
USS American Welded Wire Fabric

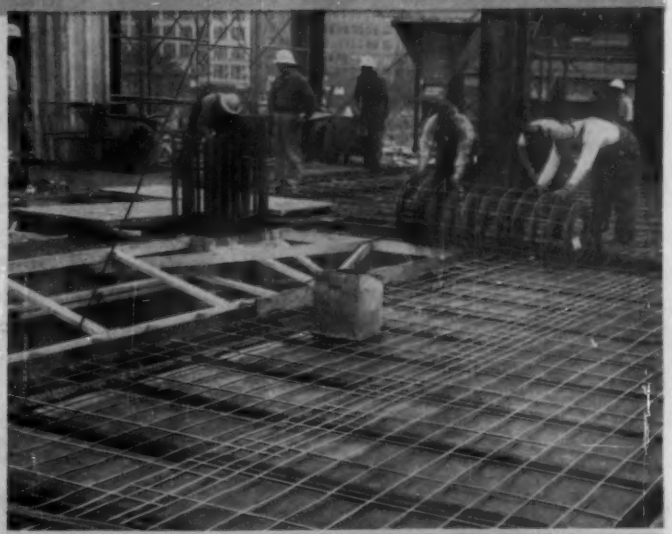
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL, GENERAL OFFICES: CLEVELAND, OHIO

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, New York

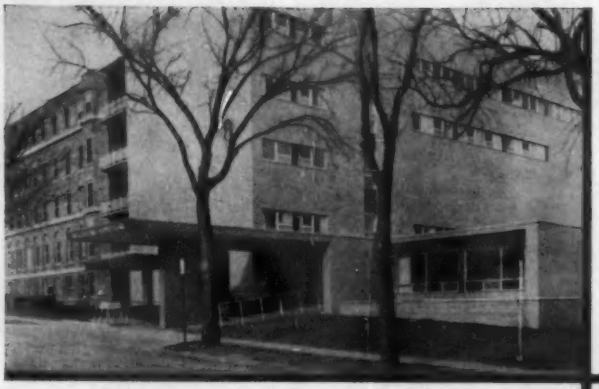
Other Uses for American Welded Wire Fabric include reinforcement of ground slabs, beam-and-slab floors, and walls. It meets all applicable ASTM specifications.

60" x 150' rolls of 6 x 12, 4 x 4 gage American Welded Wire Fabric Reinforcement were used in the topping slabs of the concrete joist floors. American Welded Wire Fabric comes in a style and size for every concrete reinforcement application . . . is easily installed.





UNITED STATES STEEL

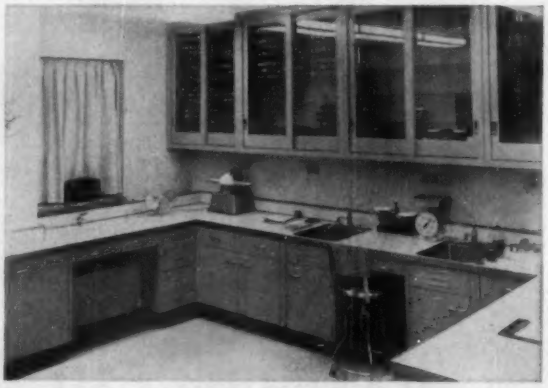


Hospital Casework by *St. Charles*

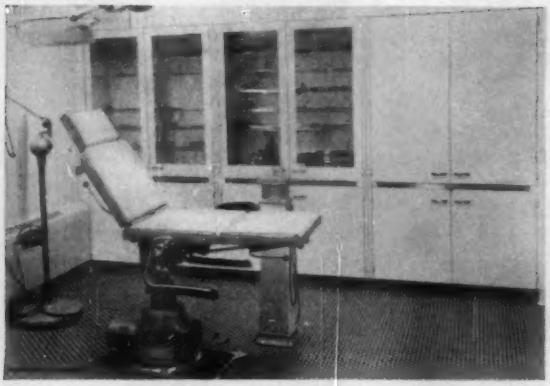
At McKennan Hospital, Sioux Falls, S. D.

Arch.: Harold Spitznagel & Assoc.

Hematology



Tissue Laboratory



Oral Surgery

General Laboratory

Functional beauty was the guiding concept in the construction of this new addition to McKennan Hospital, Sioux Falls, where skilled use of color interiors complement the clean architecture of the building. This concept was carried through even to the selection of St. Charles Steel Casework in color.

St. Charles' quality, dependability and ability to meet special requirements are fast making Casework by St. Charles synonymous with the best in hospital equipment. Perhaps our skilled personnel and modern construction facilities can serve you too. Inquires will receive prompt attention.

A request on your letterhead will bring our 40-page catalog, "St. Charles Hospital Casework."

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UNILOC ...UNITY DESIGN

INDESTRUCTIBLE

as a lock can be!

You get a lot of lock with this handsome heavyweight . . . a Masterpiece of Lock-making! Every component is of rugged section. Almost all parts are extruded brass. The entire mechanism is precision made . . . and factory assembled to be mounted as a unit.

For installation, the Uniloc requires only a simple notch in the door, plus holes for through-bolts. No mortising . . . nothing to take apart or put together . . . virtually no chance of misapplication. Parts remain in factory-perfect fit and alignment. Installation time is cut to a minimum.

Ask your Russwin Consultant to show you the Uniloc. Examine it for yourself. You will understand why this fine lock-set is specified for so many outstanding buildings. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

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"Ton Strike"
Cylinder Locks

Surface
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RUSSWIN
distinctive doorware

Steeltex easily spans six-foot centers on the fifth and sixth floor addition to Henry Ford Hospital in Detroit where it is supported by temporary shoring during pouring and curing. Bar mats provide reinforcing while Steeltex floor lath gives form to 3½ inch slab. Previously Steeltex was used on only 2- to 3-foot centers. The architect's decision to use Steeltex instead of wooden forms for six-foot spans was something new, but he soon saw it pay off as . . .

New use for Steeltex saves $26,000 at Henry Ford Hospital in Detroit

On Henry Ford Hospital's fifth and sixth floor addition, a new use for Steeltex floor lath piled up savings of approximately $26,000 on cost of materials and almost 50 percent on labor.

Architects for the $3½-million job approved Steeltex and bar mats to support 200,000 square feet of 3½ inch concrete slab set on six-foot centers by an ingenious method.

Previously, Steeltex wire mesh reinforcing—sold by Pittsburgh Steel Products Division of Pittsburgh Steel Company—had been used on centers two to three feet apart.

On jobs where the centers were farther apart, the architect usually specified a wooden forming material. Bar mats provided the reinforcing.

But Mike Sonk, Pittsburgh Steel Products Detroit district sales manager, had another idea.

He thought Steeltex could not only provide waterproofed forms less expensively for the Detroit hospital but help the bar mats make a stronger slab.

Sonk approached the architects with his idea. He pointed out Steeltex' cost saving advantages, speed of installation and ease of handling.

Whitacre Engineering of Canton, Ohio, contractors for the Steeltex-bar mat installation, also found out quickly how well Steeltex fills their needs.

The use of Steeltex brought a savings of approximately 50 percent.

Instead of spending many hours installing wooden forming material, laying bar mats and installing shoring, here's all Whitacre Engineering workmen installing the floors had to do:

Unroll lightweight Steeltex, cut it, tighten it, clip it and lay the bar mats —all in much less time.

The Steeltex-bar mat combination

Steeltex gives clean, neat appearance underneath slab after shoring is removed. Pittsburgh Steel Products Salesman Russ Nutter shows A. M. Downes, field engineer for sub-contractor, Whitacre Engineering, how easily ceiling hangers were placed through Steeltex paper, thereby eliminating costly drilling of individual holes when wooden forms are used. Architect: Albert Kahn Associated Architects and Engineers of Detroit.

also requires temporary shoring. But there's one big difference. Once shoring is removed, Steeltex is not dismantled as wooden forms are. Result? Better safety, better housekeeping, greater time savings.

Steeltex' speed of installation and easy handling really impressed Whitacre Foreman Mike Malett. He said:

"This is the first time I've seen Steeltex used primarily for its forming ability. I'm pleased with it.

"It certainly reduced forming costs. It took three men only one day to install 3,500 square feet of Steeltex on one of the floor sections.

"With wooden forms, it would have taken ten men two days."

"I also like the way Steeltex permits quick, easy installation of ceiling hangers," Mr. Malett added.

"All you do is stick the hangers through Steeltex paper so they protrude below where the ceiling is hung.

"With wooden forms we would have had to drill hundreds of holes for the hangers. That takes a lot of time and makes labor costs much higher."

A. M. Downes, field engineer for Whitacre Engineering, added: "I like the way Steeltex fits snugly around columns and pipes. It also cuts down drip-through of cement. Both advantages are a great help.

"What's more, our workmen can walk safely on Steeltex during installation and while concrete is being poured.

"Steeltex is ideal," Mr. Downes declared. "It gives reinforcing throughout, acts as a form and aids in curing the slab."

Steeltex' advantages can be put to work for you, too, on an application like that at Henry Ford Hospital. Or you might have one where centers are closer.

But no matter what the application, Steeltex is available to cut labor and material costs and insure stronger, more durable slabs.

Complete engineering advice is available at any of the Pittsburgh Steel Products Sales Offices listed here.

Call today . . . pocket the savings tomorrow.

See Sweets Catalog Section 2-B

Steeltex®

Pittsburgh Steel Products

***a division of* Pittsburgh Steel Company**

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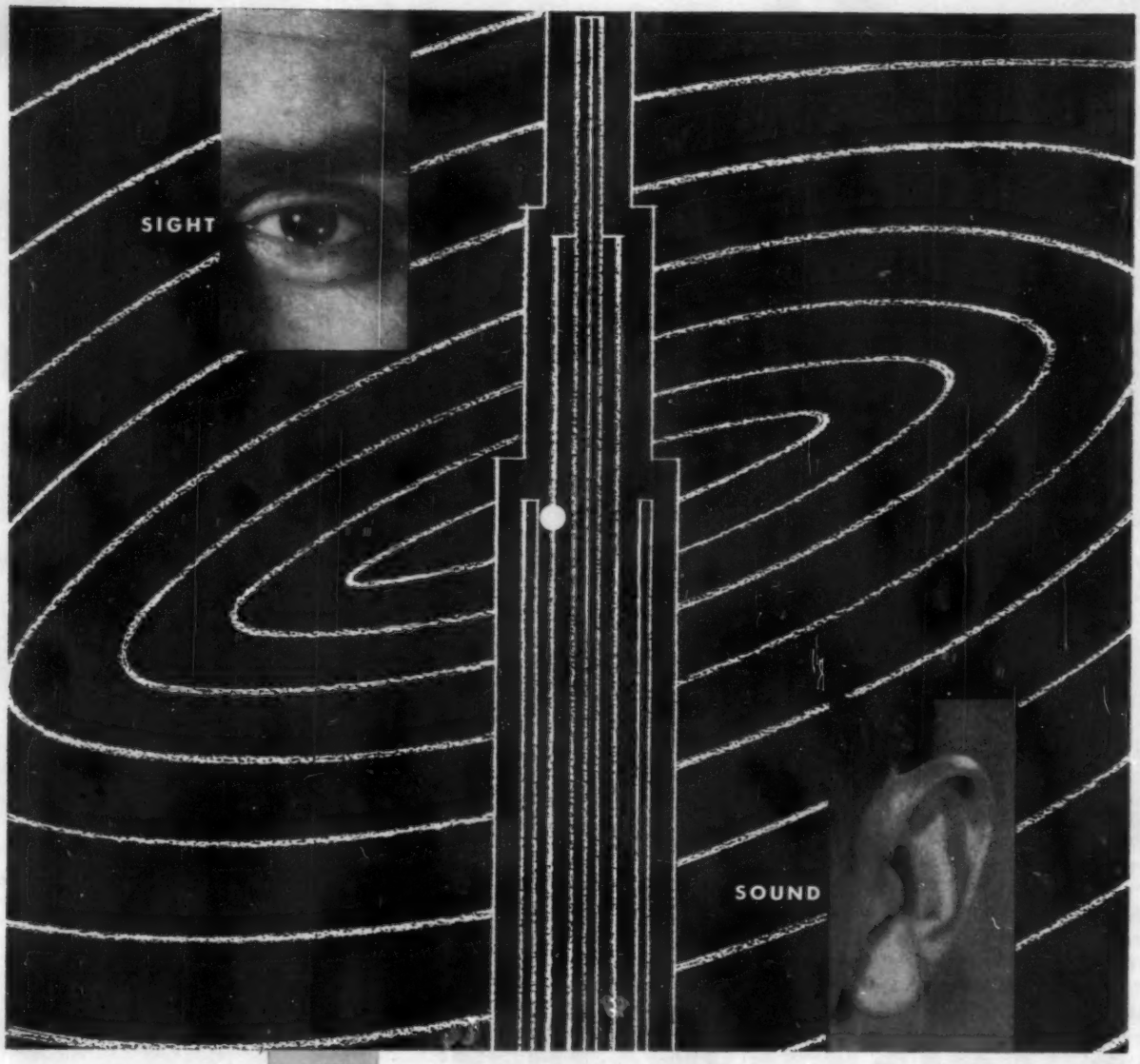

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This New York school follows the trend to sound, economical "skin" construction.

Its Cupples' aluminum curtain wall system consists of: heavy projected windows; vertical tubular mullions; porcelain enamel or aluminum panels; integral condensation gutter; tubular head and sill at roof line and bottom of second floor. All panels were installed at the Cupples' plant. Also by Cupples, is approximately 10,000 feet of miscellaneous aluminum trim for jambs, mullions, partition closures and exterior head trim.

Whether for schools or skyscrapers, Cupples has the experience and facilities to design, fabricate and erect curtain walls to your exact requirements. Cupples, also, is one of the nation's largest manufacturers of commercial and residential aluminum windows, doors, ornamental products and Alumi-Coustic grid systems. Our catalogs are filed in Sweet's.

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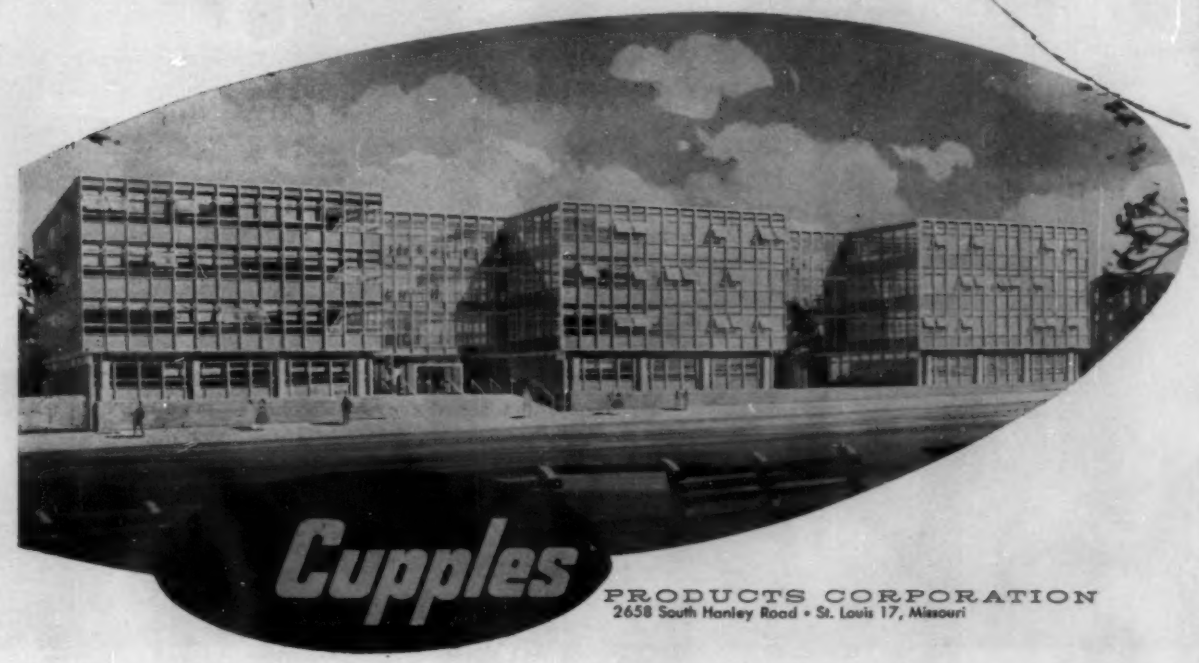
New York
Lawrence J. Rice, Contractor,
New York



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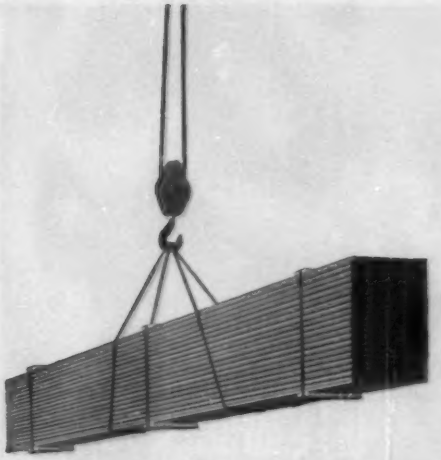
2658 South Hanley Road • St. Louis 17, Missouri



Cut field painting costs with Milcor Bonderized Deck!

Milcor's prime finish withstands rough handling

Shipping, storage, and erection can damage ordinary factory-applied prime paint. And, as you know, a finished paint job can be no better than the prime coat.

To assure a high-quality base for field painting, Milcor Roof Deck is Bonderized, then flow-coated with an epoxy-resin enamel, oven-baked to abrasion-resistant hardness. The result is the most durable prime finish ever applied to steel roof deck. If field painting is required, one coat will do the job instead of two.

See Sweet's section 2f/InL — or write for catalog 240.

MILCOR® Steel Roof Deck

It pays... in many ways... to specify Milcor Steel Building Products

MILCOR WALL PANELS	MILCOR CELLUFLOR	MILCOR RIBFORM	MILCOR METAL TRIM	MILCOR CONVECTOR ENCLOSURE WALL UNITS
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North Ward School

PORTLAND CEMENT ASSOCIATION PHOTOS

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Architectural Concrete and Concrete Masonry made with Ideal Cement provide a BEST BUY for Schools

An economical dual application of concrete was developed for the construction of the North Ward Elementary School in Superior, Nebraska. On both the inside and outside of this handsome school building, concrete walls were left exposed.

Architectural concrete exterior walls provide an attractive, low-annual-cost exterior treatment for the entire building. On the inside, lightweight concrete masonry walls fulfill a load-bearing as well as a decorative purpose. The interior ceiling was constructed of exposed concrete filler-blocks to provide additional economies when used with the thin concrete roof slab.

This unique school building provides a total of 22,750 sq. ft. of space at a cost of $11.33 per sq. ft.—is an outstanding example of the way architectural concrete and concrete masonry provide beauty, economy, and long life with minimum maintenance. Ideal Cement was used exclusively for all concrete and concrete masonry units in North Ward Elementary School.

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IDEAL CEMENT COMPANY

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Some of the Most Rapidly Growing Areas of the Nation

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Fits like a glove

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The charm of *real* wood combines with enduring quality in Shakertown Glumac Units of selected Western Red Cedar shakes. There's warmth in the texture of their deeply striated surface . . . choice of twelve striking factory pre-stained colors . . . handy units of shakes and insulating backerboard for weathertight and economical construction. Combine them with stone or brick . . . use them for accents . . . a versatile and familiar material, bright, colorful, natural. Specify Shakertown Glumac Units for lasting beauty.

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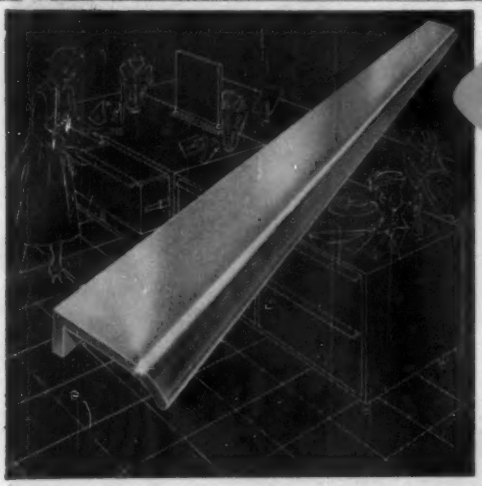
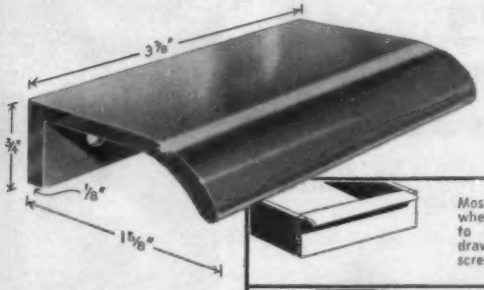
New, Modern Drawer Pull for Commercial Furniture

The EPCO DP-40 Drawer Pull, styled with simplicity, answers all the problems for commercial furniture and cases. It can be applied to sweep across the entire drawer front in a dramatic unbroken line or as individual pulls. Designed with a backplate, stress is spread across the entire pull and not solely on fastening screws . . . particularly desirable on large or heavily loaded drawers.

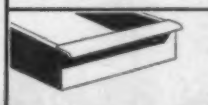




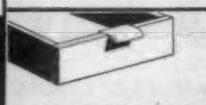
Makes all drawers look better and pull easier!

This new pull is of satin-smooth extruded aluminum with an etched and anodized finish that resists tarnish and corrosion and will give lifelong beauty and service. Although standard lengths are 3⅞ inches and 6 feet, it is easy to tailor your own lengths on the job, allowing many variations of installation. Special lengths and colors are available at slight additional cost.

Most used installation is where drawer pull is cut to inside measurement of drawer and held by two screws in backplate.



Where a flush-to-side-of-drawer appearance is desired, a notch is cut from the backplate the thickness of drawer side.



An economical installation uses the 3⅞" length in a top mount and held by two screws in the backplate.

NEW EPCO CATALOG AVAILABLE

Full information on the complete line of E-Z Glide Tracks for sliding doors, the family of friction and Magnetic Catches, and other drawer and door pulls will be sent on request.

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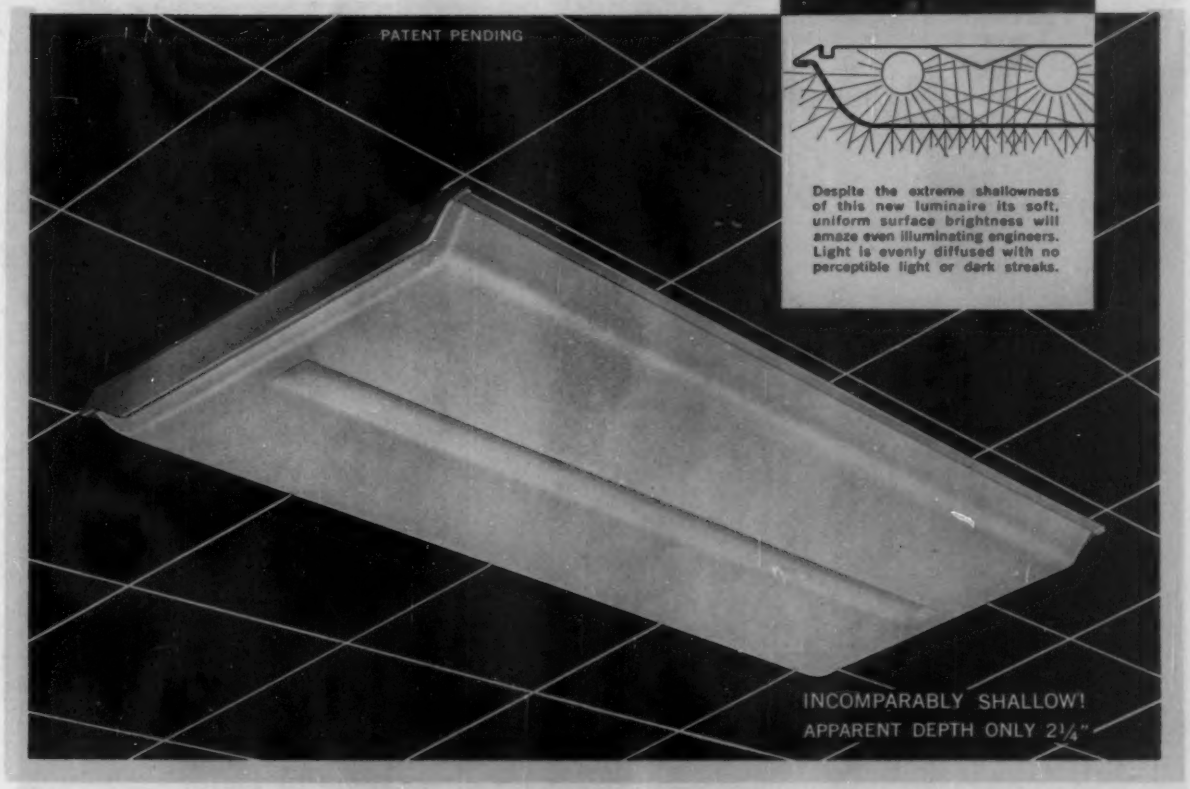
P.O. Box 118 FLINT, MICHIGAN

IT'S SURFACE MOUNTED—BUT LOOKS RECESSED!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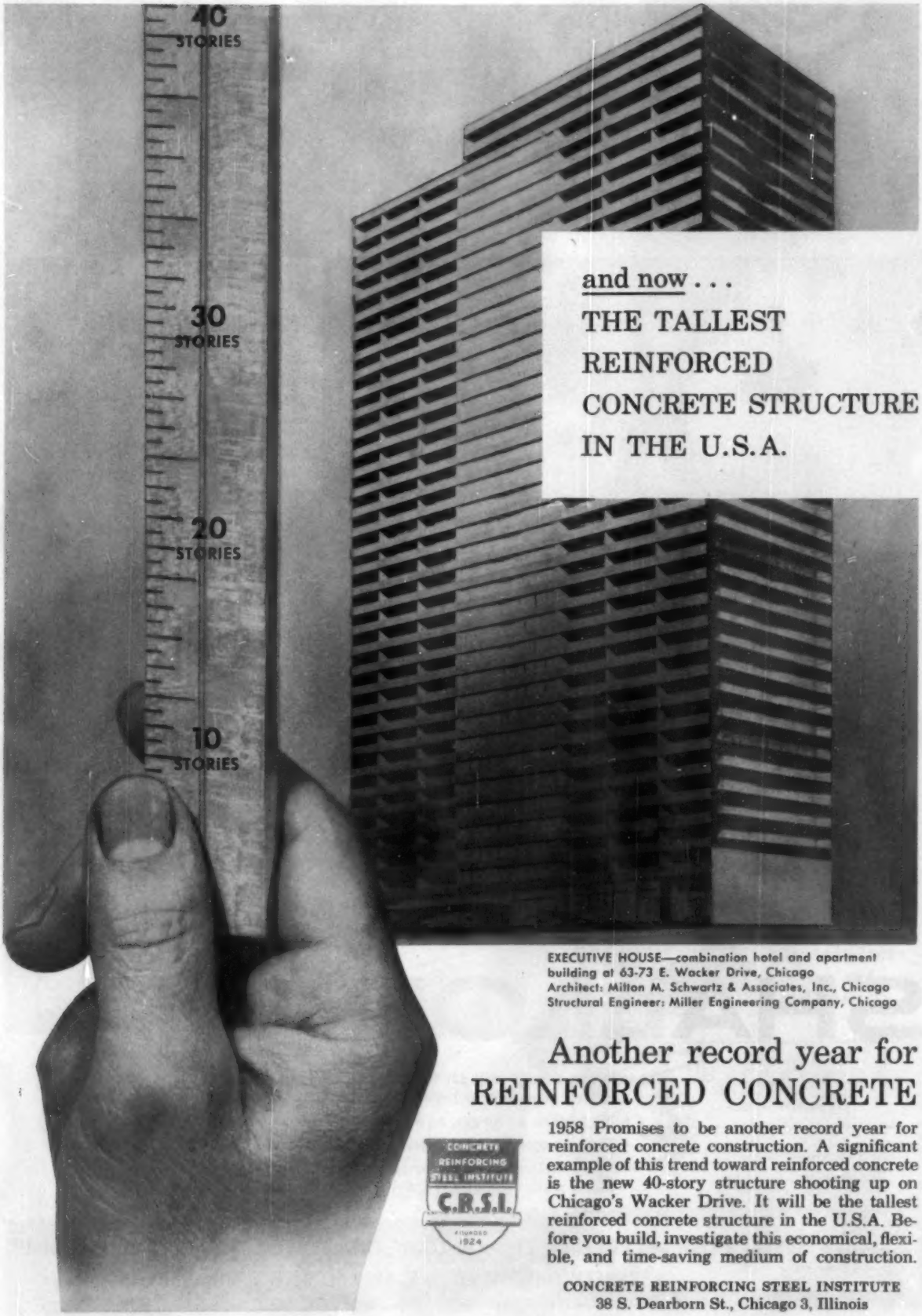

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1958 Promises to be another record year for reinforced concrete construction. A significant example of this trend toward reinforced concrete is the new 40-story structure shooting up on Chicago's Wacker Drive. It will be the tallest reinforced concrete structure in the U.S.A. Before you build, investigate this economical, flexible, and time-saving medium of construction.

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"Van Seal on Stainless is like Sterling on Silver"

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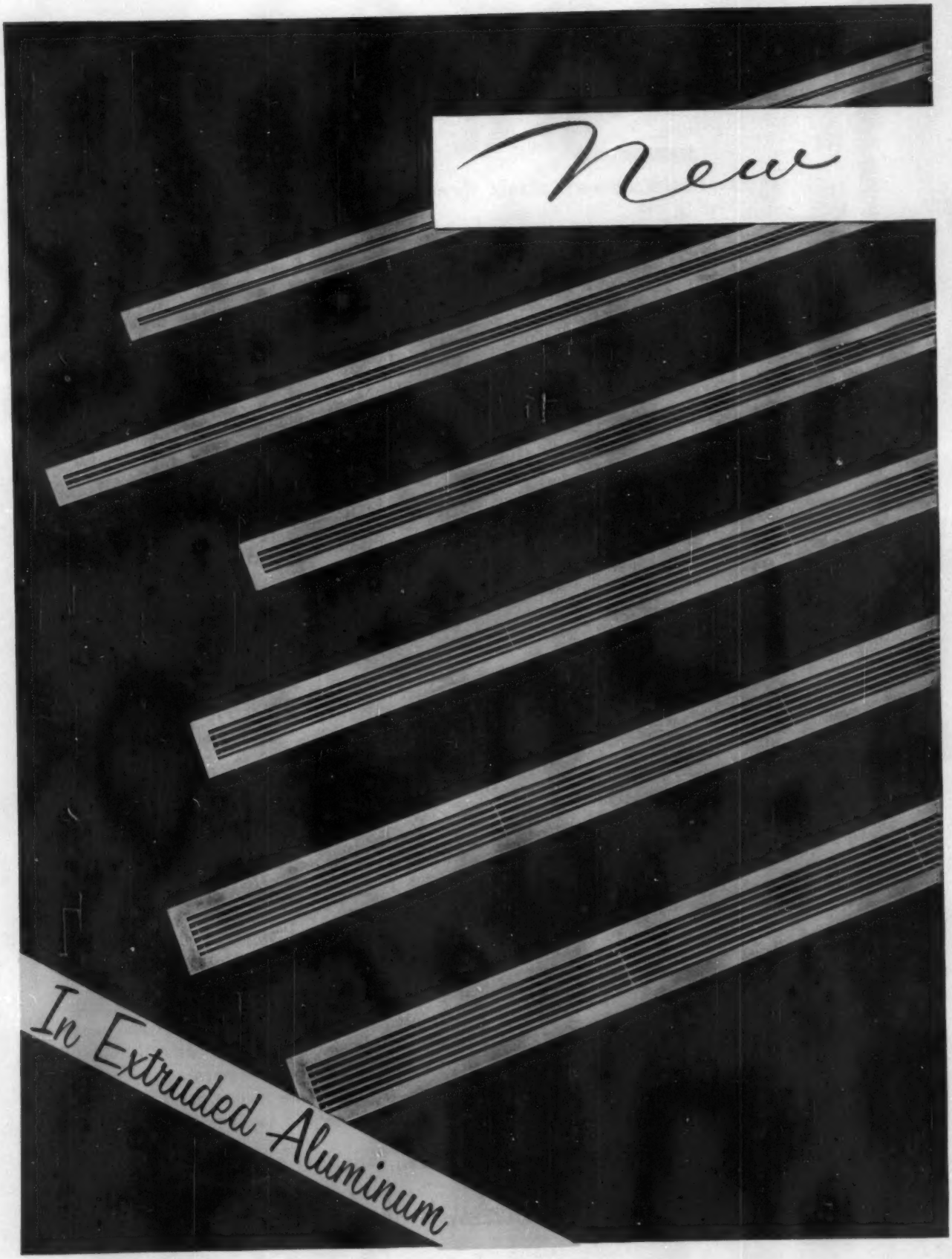
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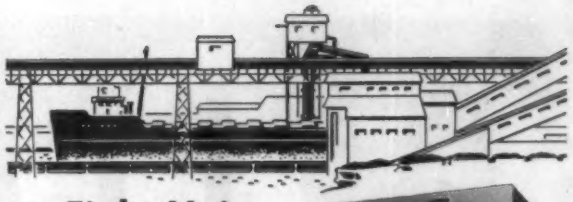

Eight Noisy Car Shakers Can't Stop Phone Talk in this Acousti-Booth!

Nowhere could the Burgess-Manning "Hear-Here" Acousti-Booth be put to a more severe test than at the Unloading Station of the Rail-to-Water Transfer Corporation dock! Supt. Jack Best writes: "We have several of your booths that are performing very satisfactorily. We can transfer a million tons of coal a month from cars to lake steamers and all this coal is dumped from the cars, with the aid of 8 noisy car shakers, within a few feet of these booths. In spite of this noise, which makes it almost impossible to converse at the top of our lungs in the open, we can carry on phone conversations, necessary for our complex operation, inside your doorless booths!"

"Another "Hear-Here" Booth is installed in our sub-station, where 4 motor generators make phone conversation impossible without it."

Burgess-Manning "Hear-Here" Acousti-Booths make important phone conversations possible in even the noisiest locations. Avoid errors, misunderstandings—install the Burgess-Manning "Hear-Here" Acousti-Booths.

AVAILABLE IN STYLES TO SUIT EVERY PURPOSE WRITE FOR CIRCULAR "A-142-2A"

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An Island of Quiet in the Noisiest Locations.

Built according to Scientific Acoustical Principles.

No Doors to Break or Stick.

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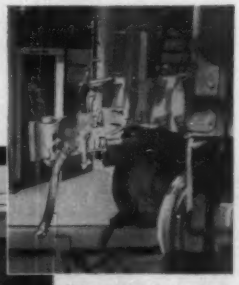
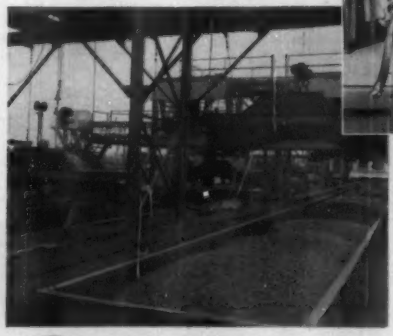
Fresh Air Always — No Foul Odors.





"Hear-Here" Acousti-Booth at Unloading Station. 1,000,000 tons of coal a month can be unloaded within a few feet of this booth, yet phone conversation can be carried on freely inside this doorless booth.

Rail-to-Water Transfer Corporation, Calumet River Dock in Chicago.

Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

5970 Northwest Highway, Chicago 31, Ill.

"I always specify Hako floor tile"

School Executive: "The trend's towards color. But school floors take a lot of scuffing. And what about cleaning?"

Architect: "In other words. You need good looks. Toughness. Easy cleaning."

School Executive: "Can you get a floor with all three?"

Architect: "Sure. Asphalt or Vinyl-Asbestos tile. Perfect."

School Executive: "I left out economy. Let's put it back in."

Architect: "We'll keep the taxpayers happy, too. It's low in cost . . . made to fit a school budget yet still gives you smart colors and patterns . . . stands up to the pounding of little feet . . . and it's a cinch to keep clean."

School Executive: "I suppose that goes for any tile?"

Architect: "Whoa. I like to be sure. That's why I always specify HAKO. They make both Asphalt and Vinyl-Asbestos tile. Best all-around type of flooring you can use—colorful, durable and low cost!"

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A DIVISION OF MASTIC TILE CORPORATION OF AMERICA
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Asphalt Tile • Vinyl-Asbestos Tile • Coronet Plastic Wall Tile

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Please send me full details and specification data on Hako Asphalt and Vinyl-Asbestos Tile.

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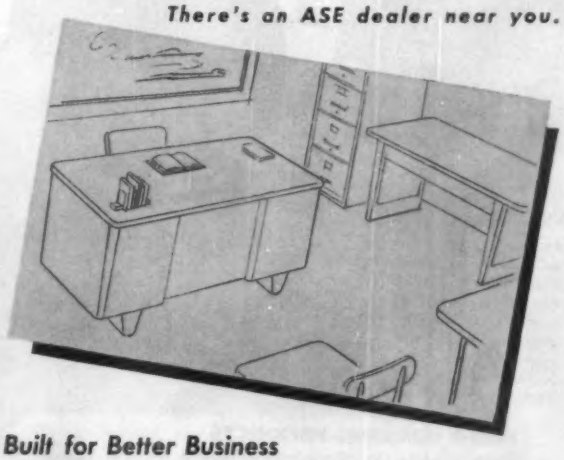


Better Built for Better Business

ALL-STEEL EQUIPMENT INC.

Aurora, Illinois

Alodine® Amorphous Phosphate Coatings as DECORATIVE FINISHES for Aluminum

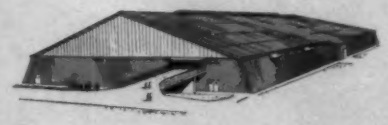
By PAUL KERN
Product
Development Dept.
AMERICAN CHEMICAL
PAINT COMPANY

Amorphous phosphate coatings as applied to aluminum in the ACP Decorative Alodine chemical conversion processes perform three major functions. One, they improve the natural corrosion resistance of aluminum. Two, they produce an attractive, durable and sunfast green color. Three, they materially reduce the reflectivity of the metal. And they do all these things more economically than other commercial processes.

Grades of Decorative Alodine

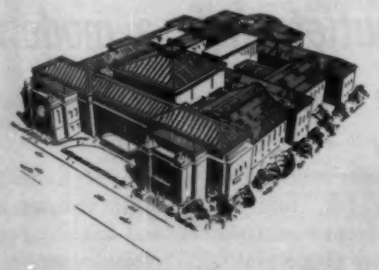
ACP Decorative Alodine is presently available in three grades: Architectural, Commercial and Industrial. Each is discussed in some detail herewith.

Architectural. This grade, with established standards for controlling the shades, offers the widest choice of matched colors. Finishes range from a colorless coating (Standard No. 1) to a maximum depth green coating (Standard No. 4). Since these standards are set up as color reference points only, intermediate colors within the established range may be obtained at the discretion of the processor. The immersion process by which it is applied includes etching, the Decorative Alodine treatment, and lacquering. The Architectural grade coating provides a pleasing matte finish with low glare properties; good self-washing characteristics due to the lacquer coating; optimum corrosion resistance; good abrasion resistance; effective color match on shades represented by the standard green colors; protection against mortar damage, no staining or pitting of the metal; a parting layer permitting machine forming of the aluminum after treatment.



Typical applications of the Architectural grade include banks, museums, institutional and commercial installations of aluminum.

Commercial. This grade provides the same service life and protective characteristics as the Architectural grade. The only differences between the two are that the aluminum is not etched prior to the Alodine treatment, and that the color selection is limited. The range of color and the coating weight (min. 250 mg/sq. ft.) are determined by mutual agreement between the buyer and the seller. The coating can be applied by either spray or immersion processes. In either case the Decorative Alodine color coating is given a finishing coat of lacquer. Commercial grade

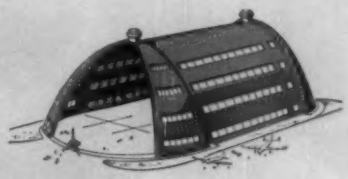


coatings provide good corrosion resistance; good self-washing characteristics; good abrasion resistance; protection against mortar damage, no staining or pitting of the metal; a parting layer which permits forming of the aluminum after treatment.

Typical applications of the Commercial grade include industrial and institutional buildings.

Both grades on embossed sheets meet the reflectivity requirements of Corps of Engineers Specification CE-222.01.

Industrial. This grade consists of the Decorative Alodine treatment only. No etching is done. No lacquering is required. It provides a preweathered surface which reduces glare. It produces an excellent base for subsequent painting. Aluminum treated with this grade, by spray or by immersion processes, is available from aluminum producers and processors.



Cost Data

Although prices for all three grades vary according to shapes, sizes and quantities, a general comparison can be made as follows:

- Architectural grade costs ½ of the lowest priced dyed anodic coating
- Commercial grade can be applied at 50 to 80% of the cost of the Architectural grade
- Industrial grade can be applied at 25 to 50% of the cost of Commercial grade

Performance Data

Several sites throughout the country have been used for a number of years to test these coatings under actual conditions. Results of these tests are available upon request.

For more complete information about Decorative Alodine, contact an ACP sales representative or write us at Ambler.

AMERICAN CHEMICAL PAINT COMPANY, Ambler 22, Pa.

DETROIT, MICH. • ST. JOSEPH, MO. • NILES, CALIF. • WINDSOR, ONT.

CHEMICALS ACP PROCESSES

New Chemical Horizons for Industry and Agriculture

Builder Richard Schoen (left) and Architect Pierre Zoelly at the site of their ultra-modern home for Mr. and Mrs. Paul Decker in the Surrey Hill area of Columbus.

"Planned telephone outlets help a modern home stay modern"

—says Mr. Richard Schoen, Custom Builder, of Columbus, Ohio

"My customers want their homes to be modern today and modern tomorrow, too," says Mr. Schoen. "Among the many conveniences I plan with the future in mind are telephone outlets, with the wiring neatly concealed in the walls.

"I discuss these telephone outlets with every customer, and we consider not only present needs, but anticipated future requirements also. The way I see it, every house I build can be a lasting advertisement for me here in Columbus. And planning for telephone outlets is one good way to insure that my homes are going to stay modern and desirable for a long time to come, as well as please customers and help sales today."

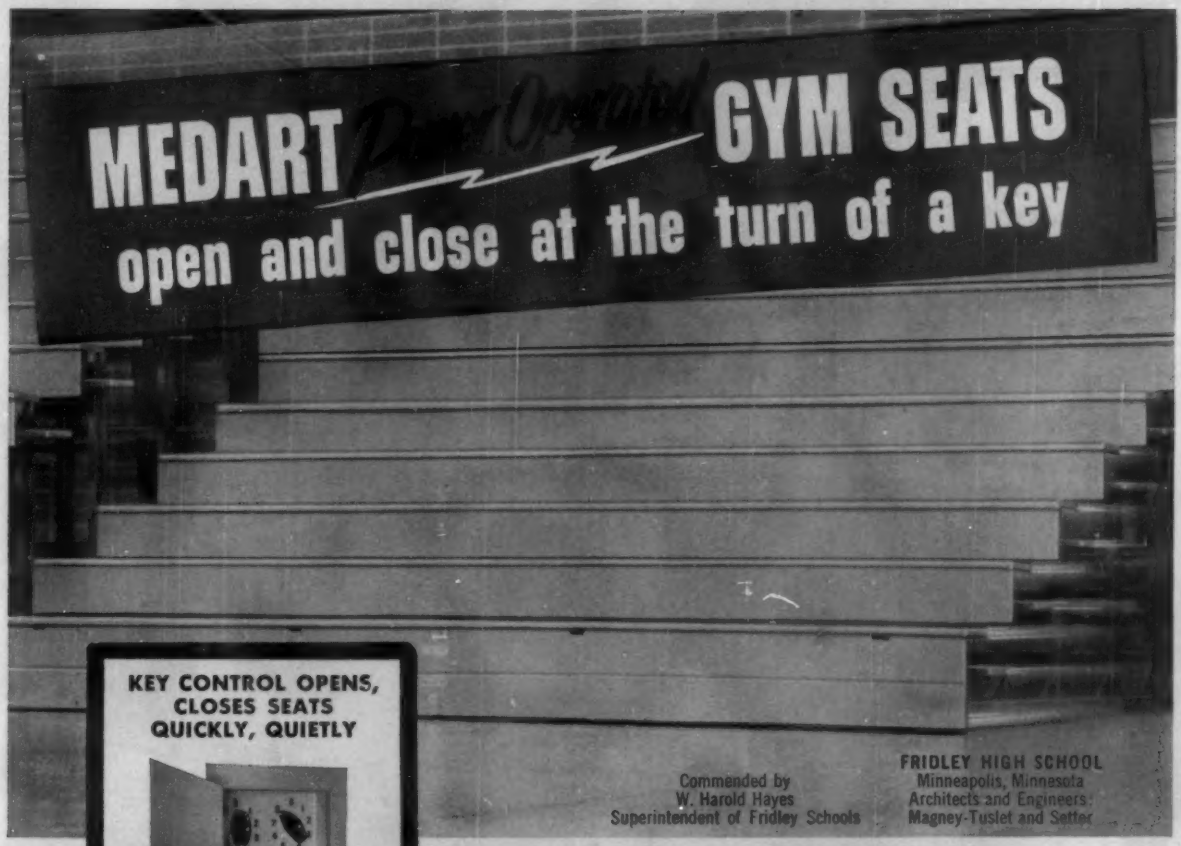
* * *

Your local Bell Telephone business office will be glad to help you with concealed wiring plans. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

Working together to bring people together

BELL TELEPHONE SYSTEM

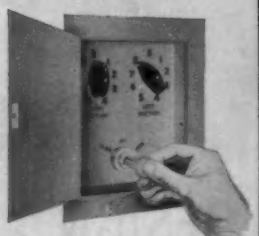
MEDART *Power Operated* GYM SEATS
open and close at the turn of a key



Commended by
W. Harold Hayes
Superintendent of Fridley Schools

FRIDLEY HIGH SCHOOL
Minneapolis, Minnesota
Architects and Engineers:
Magney-Tuslet and Setter

KEY CONTROL OPENS, CLOSES SEATS QUICKLY, QUIETLY



Moves the biggest seat sections into position in a few seconds. If all seats in any section are not needed, release of key stops movement instantly when wanted number of rows are in position. Automatic safety controls insure hazard-free operation. Key-operated control can be remotely installed anywhere. Removable key prevents unauthorized operation.

* Patents Pending

Automation eliminates all manual effort—Power operators self-contained in seat sections—Key control switch may be installed anywhere

MEDART'S FULL AUTOMATIC POWER OPERATION* opens and closes the largest gym seat sections quickly, quietly, safely, without physical effort. Crashing, banging is eliminated—life of seats is prolonged—maintenance is reduced to a minimum.

No special construction provisions, no floor tracks, necessary. Building conditions remain same as for manually operated seats. Any 110-v. or 220-v. power source will do. Power operation plus Medart's exclusive "Floating Motion" and "Dual Align" guarantees smooth, non-binding trackage.

Write for illustrated brochure.

ONLY MEDART SEATS HAVE THESE PREFERRED FEATURES

1. Safer self-supporting free-standing understructure.
2. Eight vertical steel-angle uprights per seatboard.
3. Retracting rubber rollers put load on floor, not on casters or wall.
4. Interlocked telescoping supports and roller housings make operation easier, prevent binding.
5. Toughest, smoothest, most abrasion-resistant wood finish on market.
6. More leg and foot room—better visibility.

HELP ON GYM SEAT PLANNING

Medart's Gym Seat Catalog tells how to get better, safer seating with minimum investment. Write for your copy.

MEDART MAKES THE BEST:

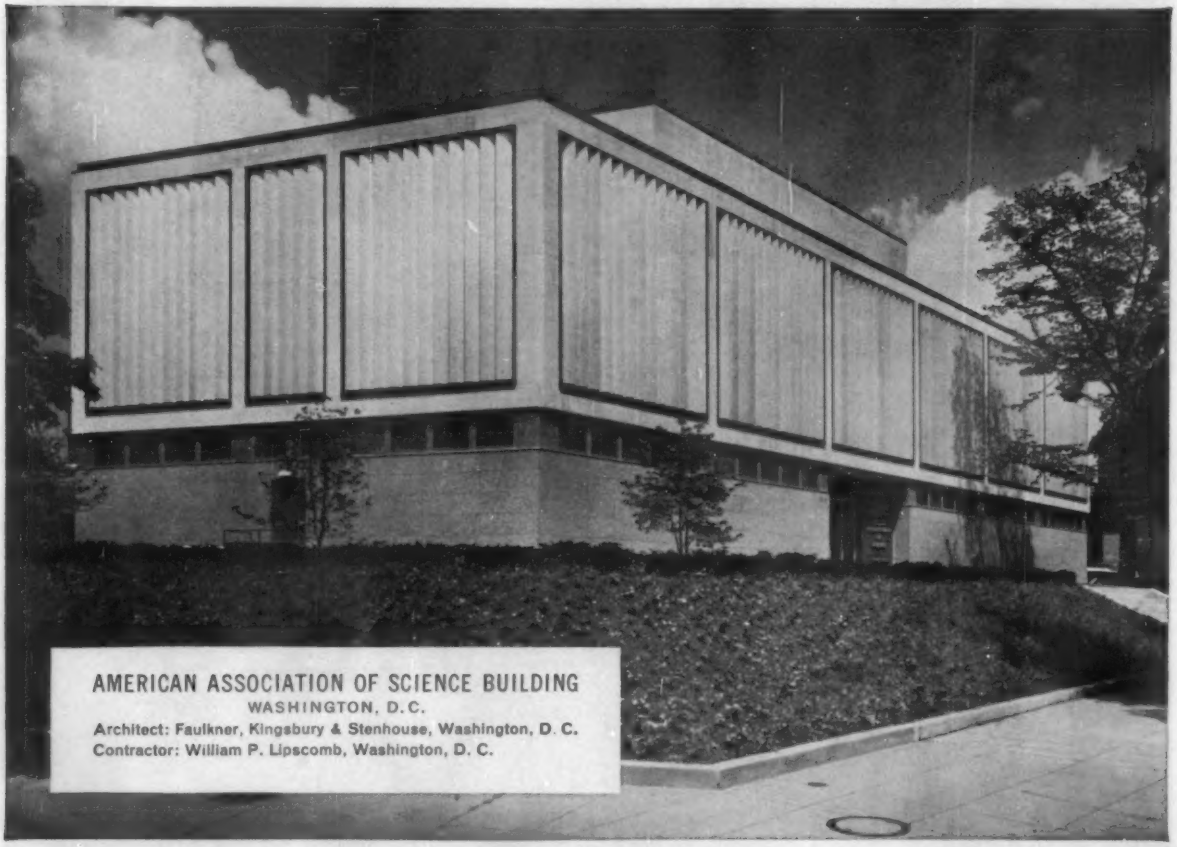
Telescopic Gym Seats • Basketball Backstops
Basketball Scoreboards • Gymnastics Apparatus • Physical Therapy Equipment

MEDART
TELESCOPIC GYM SEATS

SPECIFY the best, then INSIST on it!

FRED MEDART PRODUCTS INC. • 3540 DE KALB ST. • ST. LOUIS 18, MISSOURI

A continuing series of distinguished office buildings, schools, churches, hospitals and industrial structures using NORTON DOOR CLOSERS



AMERICAN ASSOCIATION OF SCIENCE BUILDING
WASHINGTON, D.C.
Architect: Faulkner, Kingsbury & Stenhouse, Washington, D.C.
Contractor: William P. Lipscomb, Washington, D.C.

A CLASSIC OF MODERN DESIGN WITH DOOR CLOSERS TO MATCH

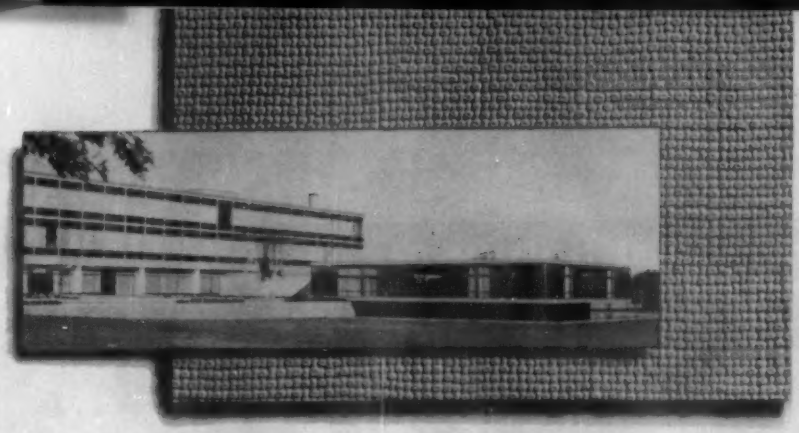
As thoroughly modern as the latest findings in nuclear fission, this distinguished structure has been hailed as one of the most outstanding of recent additions to the Washington scene. To preserve complete harmony of design throughout, every detail including door closers was selected with utmost care.

Both Norton INADOR® and surface mounted closers were extensively used, the latter on doors where concealment was not considered essential. Both are true liquid type closers with all the reliability, low maintenance and precision workmanship which the name NORTON always implies. For complete data on these and all other Norton models, consult the current catalog. Write for it today if you don't already have one.

A complete line of Norton Surface-type Closers is available for installations where concealment is not essential.

NORTON®
DOOR CLOSERS
Dept. AR-38 • Berrien Springs, Michigan

another VICRTEX VEF INSTALLATION



ARCHITECTS:
Skidmore, Owings & Merrill

CONNECTICUT GENERAL gets lifetime premium value

with VICRTEX V.E.F.*

everlastingly beautiful WALLCOVERING FABRICS

For walls no less dramatic than their exciting surroundings, Connecticut General's architects and designers used VICRTEX VEF wallcoverings . . . to give smart textural interest to vast sweeps of wall . . . add rich color and sparkling freshness from floor to ceiling. VICRTEX VEF provides a complete answer to the designers' needs: imperishable good looks—no maintenance costs. Follow *your* inspirations in design and decoration with complete freedom . . . plan your walls with Vicrtex VEF for lasting beauty.

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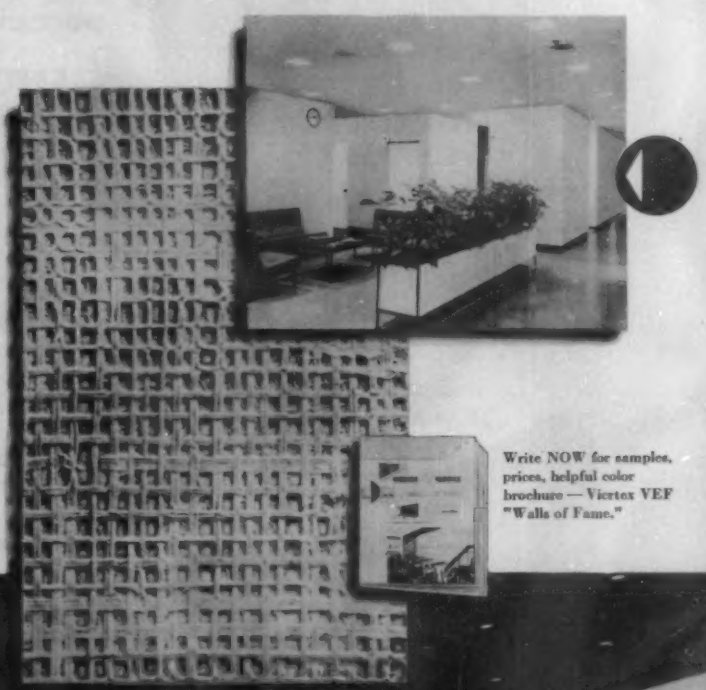
Mills: Wharton, New Jersey



Write NOW for samples, prices, helpful color brochure — Vicrtex VEF "Walls of Fame."

* *Vinyl electronically fused, needs no backing however used.*

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assured visual flatness . . . .

positive structural soundness

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Mechanically-assembled

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CURTAIN WALL PANELS

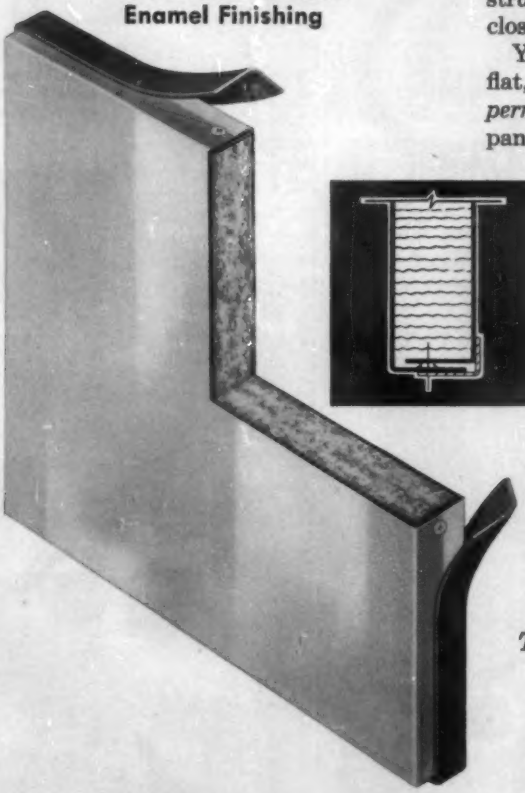
PORCELAIN ENAMEL PRODUCTS

U-20 Curtain Wall Panels
U-16 Curtain Wall Panels
Special Curtain Wall Panels
Veneer Panels
Copings, Mullion Covers, etc.
Industrial Porcelain Enamel Finishing

For that most desired combination of panel flatness with the structural security of mechanical assembly in your curtain wall panels, look to ERIE. More than 30 years' experience in architectural porcelain enamel has perfected these attributes in the ERIE U-20 and U-16 insulated porcelain enamel finished curtain wall panels.

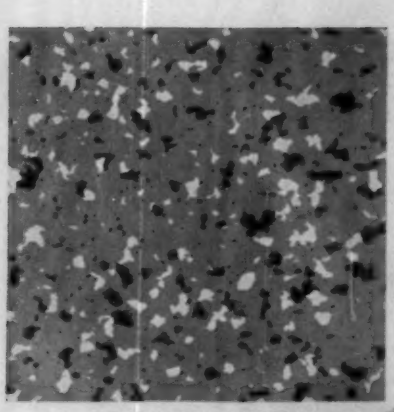
ERIE production methods and size recommendations assure excellent visual flatness. The cutaway view and section below clearly show the overlapping-flange construction and mechanical fastening which secures the closure permanently.

You can rely on the ERIE method when you want a flat, structurally *permanent* curtain wall panel with *permanent* porcelain enamel finish and color. No other panels now marketed fill the bill quite so completely.

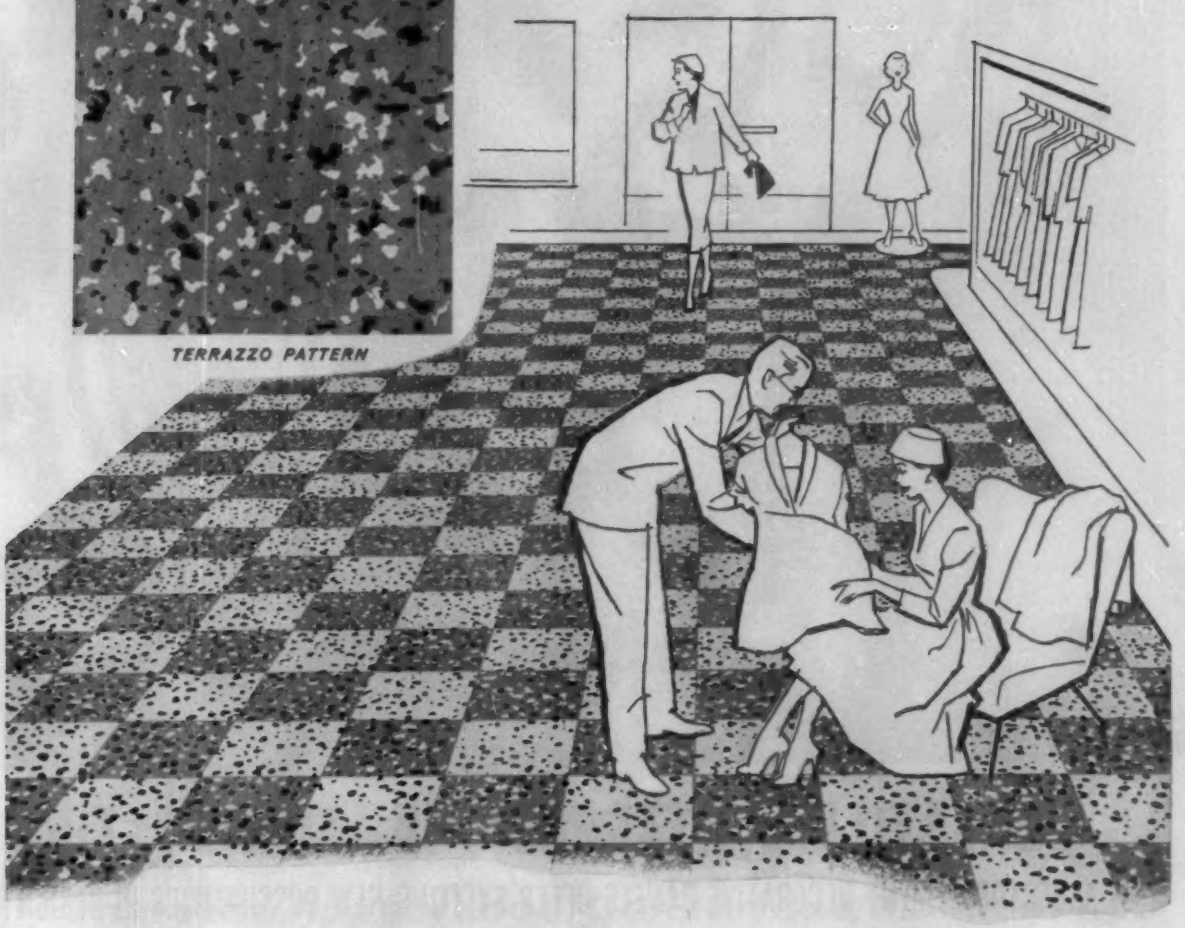


WRITE for "ERIE Insulated Porcelain Enamel Panels"—a 20-page brochure with all the answers.

The Erie
ENAMELING COMPANY
ERIE, PENNSYLVANIA
CHICAGO, PHILADELPHIA
Representatives in Principal Cities



TERRAZZO PATTERN



Here's Customer-inviting beauty that lasts longer with less care

Bolta-Floor's rich decorative colors and patterns help "dress-up" stores . . . make them more appealing to shoppers. Best of all heavy store traffic has little effect on Bolta-Floor. Its smooth, non-porous surface resists soil, scuffs and stains . . . keeps its lustrous "just-polished" appearance with far less care than other types of flooring. Bolta-Floor is dimensionally stable . . . won't crack, chip or shrink. Exceptional beauty and outstanding performance makes Bolta-Floor the wise choice for modern stores, buildings and institutions.

SPECIFICATIONS:

Bolta-Floor is available in 23 marbleized, 24 "Terrazzo," or 5 solid colors, in standard 9″ x 9″, or 6″ x 6″, 12″ x 12″ and 18″ x 18″ tiles on special order, in .080″, and ⅛″ gauges. Solid or marbleized are also offered in ½″ and are produced in 27″, 45″ and 54″ roll widths for floors, walls and countertops. See Sweet's 13i/Ge.

GENERAL® PLASTICS
The General Tire & Rubber Company

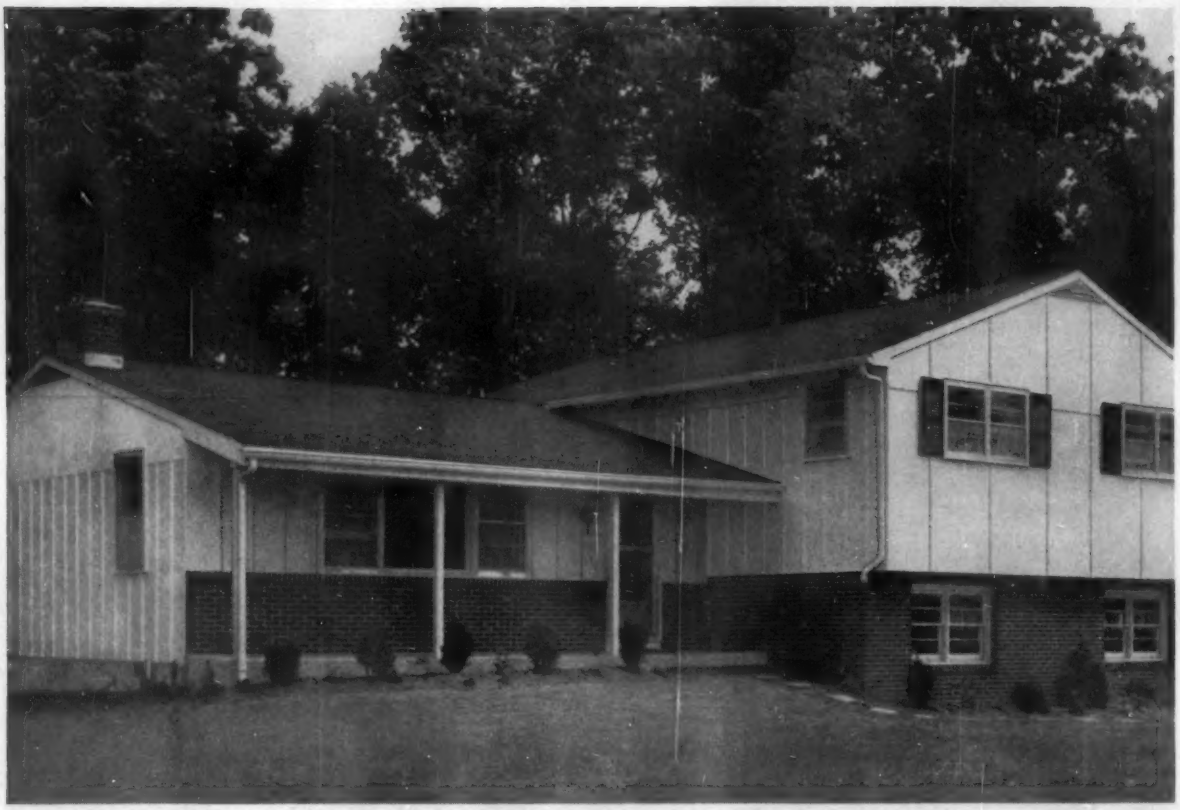
THE GENERAL TIRE & RUBBER COMPANY
FLOORING DIVISION • AKRON 9, OHIO

Bolta Floor®

SOLID VINYL FLOORING

THE FINEST QUALITY FLOORING FOR . . .

Stores, Restaurants
Hotels, Motels
Banks, Offices
Hospitals, Homes



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VERSATILE...ATTRACTIVE...LOW-COST

K&M ASBESTOS-CEMENT DECORATIVE PANELS OFFER EXCITING NEW POSSIBILITIES IN DESIGN!

Here's how one architect utilized K&M Asbestos-Cement Decorative Panels to form striking combinations . . . at reduced costs.

On the left side of the house, he used K&M Ribbed Decorative Panels . . . with K&M Linabestos Flat Sheets forming the lower half. At the right, he installed K&M Fluted Decorative Panels. These combined with K&M Asphalt Roofing Shingles to give an attractive contemporary appearance to this medium-priced house.

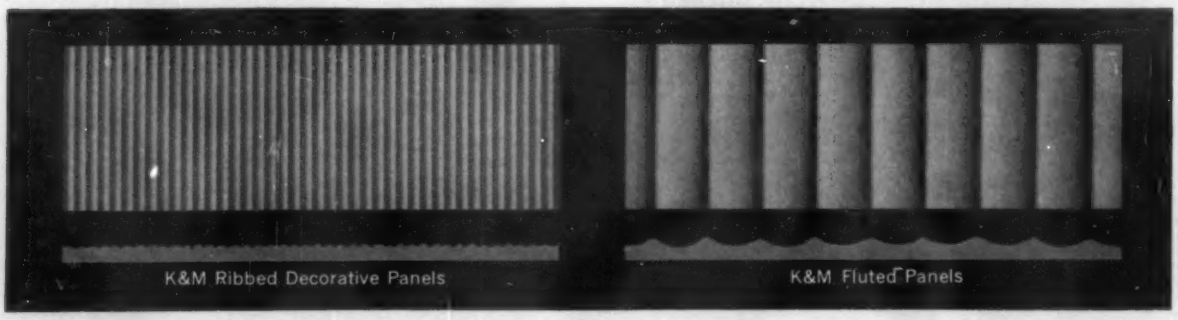
In addition to good looks, K&M Asbestos-Cement Decorative Panels have many client-pleasing features.

Cost is low. Construction is inexpensive. Installation is fast. Maintenance is almost zero. K&M Asbestos-Cement Decorative Panels are vermin-proof and weather-resistant. Never need protective painting. Won't burn, rot, or corrode. Consist of asbestos fibers and portland cement.

K&M Asbestos-Cement Decorative Panels offer you a good-looking, economical material that can enhance any design . . . regardless of the price range of the house. Write to us today for complete information.

K·M
BEST IN ASBESTOS

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA



K&M Ribbed Decorative Panels

K&M Fluted Panels

An actual example of Rusco Window Modernization: a midwest department store, with 196 openings.

RUSCO Window Modernization

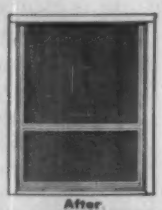
Improves Appearance, Comfort and Maintenance In 1 to 2 Hours Per Opening

Custom-fitted Pre-assembled Windows and Frame Liners Eliminate Scaffolding, Gutting . . . entire installation is made from inside. Interior trim is undisturbed.

Tenants are happier with cleaner, more comfortable space. Rusco's "Easy-slide" feature eliminates window operation complaints. Optional insulating sash helps maintain a 15° differential in summer, draft-free comfort in winter, and provides draft-free ventilation.

Heating—cooling—maintenance costs go down because Rusco's felt weatherstripping stops infiltration. All glass is removable for washing inside.

There is a Rusco Replacement Window to meet your architectural requirements. Satin finish aluminum or hot-dipped galvanized steel with baked-on enamel for low maintenance and long wear.


After

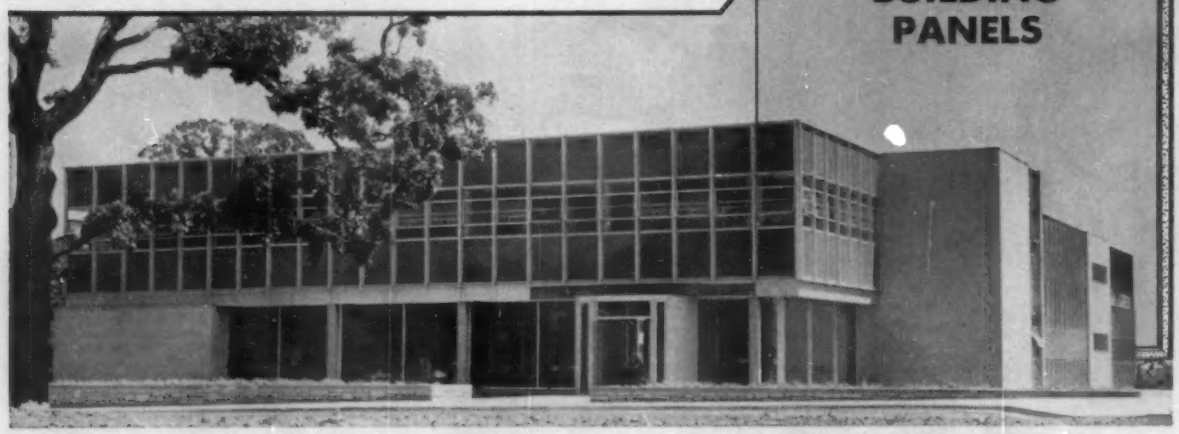
Before

THE F. C. RUSSELL COMPANY, Columbiana, Ohio
In Canada: Toronto 13, Ontario
Write Dept. H-3 for further Window Modernization information.

"Always one step ahead of the weather" with
RUSCO

For fast construction and bonus floor space . . . specify modern

HASKELITE BUILDING PANELS



■ Buildings go up faster . . . construction costs go down . . . floor space increases with versatile Haskelite building panels on the job.

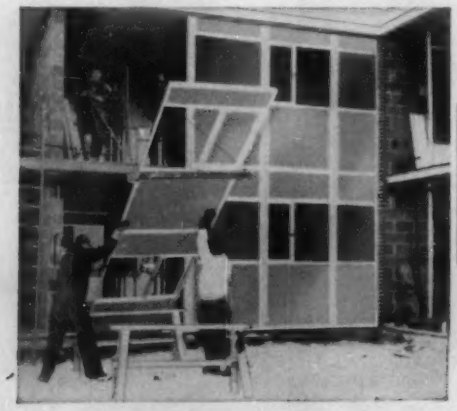
Along with being prefinished, Haskelite plastic laminated panels are structurally strong, moisture-proof, noncorrosive, rot-proof, vermin-proof, lightweight and provide a constant insulating value. They add a modern appearance to curtain and window wall buildings . . . are easily installed with a minimum of labor.

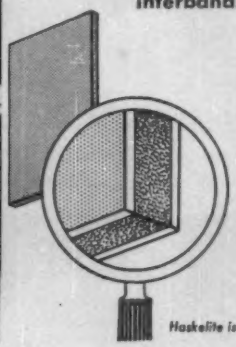
Haskelite panels are available in a wide range of stock sizes and thicknesses, or in special sizes when specified. For the complete story on the advantages of Haskelite panels, write: Haskelite Manufacturing Corporation, Department BO, Grand Rapids 2, Michigan.

Monsanto Chemical Company's new laboratory in St. Louis represents the most thorough use of plastics in a commercial building in the world. Haskelite panels played a basic structural role in this new building. Architect—Holabird & Root & Burgee, Chicago.

The modern, attractive appearance that can be gained with Haskelite panels is shown here in the students' dormitory at Marion College, Marion, Ind. Architect—Orus O. Eash, Fort Wayne, Ind.

New student housing project at Michigan State University goes up rapidly with Haskelite panels. Entire wall can be installed without using expensive erection equipment. Architect—Manson Carver Associates, Lansing, Mich.





These lightweight panels incorporate Haskelite's own Polyester Resin impregnated fiberglass cloth faces, bonded to cement asbestos interbands, and a foamed polystyrene core.

HASKELITE

HASKELITE

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Grand Rapids 2, Michigan

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So beautiful...and yet so practical...

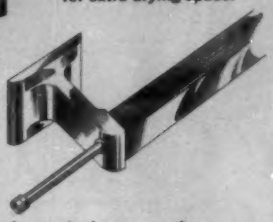
HALL-MACK®

bathroom accessories in sparkling *chrome*

Electric Warm-Dri Rack keeps towels dry and warm.

Concealed Vanity Shelf. Chrome trim, sliding mirror glass doors. Has electric outlet, tooth brush holder — lots of space for bottles, medicines, etc.

Attractive Extendo-Bar adds utility... retractable extensions pull out instantly for extra drying space.



Sold by leading plumbing, tile, and hardware dealers everywhere

Life can be beautifully practical for those who have Hall-Mack bathroom accessories in their homes . . . because these choice fixtures have an inherent quality that equals their attractive appearance. Sparkling with real originality and blending smoothly with any decor, these deep-quality, chrome-plated accessories are styled in various price ranges to meet your taste and needs. For solid convenience and the extra glamour that creates satisfied customers . . . always specify and install Hall-Mack . . . the world's finest accessories.

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AR-3

Prestige Photographers—One of a series. At the right, Photographer-Illustrator Bob Christiansen, who has carved for himself a reputation for brilliant concept and daring execution, captures some of the sleek, warm character of Rhodesian Walnut in the Stem veneer that backs this self-portrait.

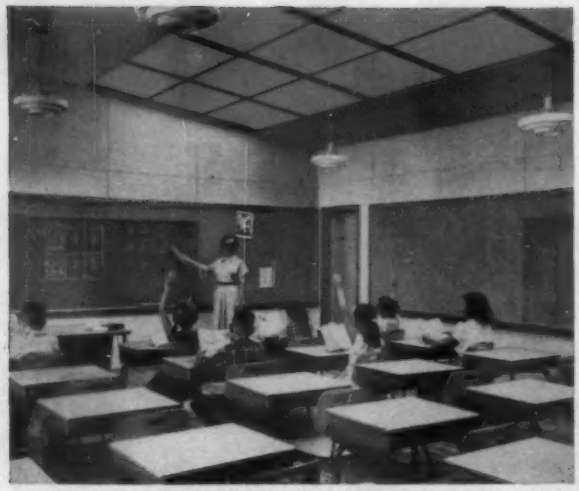
PRESTIGE VENEER ..THE CHARM OF RHODESIAN WALNUT

Capture Rhodesian Walnut's charm and beauty fully by specifying STEM veneer from log samples

Walnut, from many parts of the world, brings to mind gracious living, a comfortable warmth, surpassing in elegance nevertheless. The world's finest furniture pieces are made from walnut. Veneers, in Rhodesian Walnut, manufactured by Stem, provide a perfect background of elegance for whatever is the finest. On any project requiring 1,000 square feet or more of fine wood wall paneling, Stem affords the important and additional means of capturing fully this lovely warmth by specifying from actual log samples the veneer of your choice. You can be sure then of just the right color gradation, just the right configuration of grain, the perfect background. Stem offers the *world's largest collection* of architectural flitches (a log or part of a lot cut into veneers) from which you can choose Rhodesian Walnut and many other fine, rare architectural veneers. If you identify in your original specifications the selected flitches by wood specie and flitch number, only then can you be comfortable in your confidence that the finished installation will achieve the full warmth and beauty to which you are entitled when you select a decorative background with a magnificent tradition.

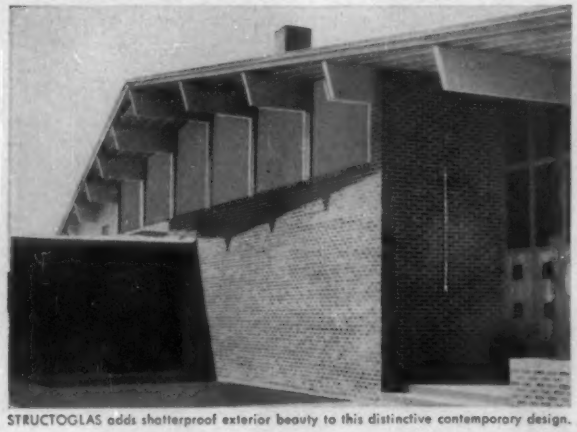
CHESTER B. STEM, INC., NEW ALBANY, INDIANA

RARE WOODS FROM STEM



STRUCTOGLAS area walls and relight panels flood school room with cooled natural light.

THE SUN GOES TO SCHOOL



STRUCTOGLAS adds shatterproof exterior beauty to this distinctive contemporary design.

WITH

structoglas®

Daylight never takes a holiday in this sun-oriented school by Charles W. Johnston, A.I.A. Colorful Structoglas reinforced plastic panels were used in skylights, window walls, roof overhangs and relight panels—to let natural light in, filter out hot infrared rays. And shatterproof Structoglas adds functional beauty to walk coverings, shower and lavatory partitions.

Sunlight is *free*. Put it to work with Structoglas.

S804

WRITE TODAY for complete Structoglas catalog, specs and samples—STRUCTOGLAS DIVISION, International Molded Plastics, Inc., Dept. AR3, Cleveland 9, Ohio.

picked by professionals

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And because Pressure-Proofing seals the lead to the wood along its entire length, the Venus is stronger, holds a needle point longer. See why Venus sets the standard for fine drawing pencils. Also try Venus Refill drawing lead that fits all holders.

SEND FOR the Venus Technical Test Kit. State degree wanted—also choice of pencil or refill lead.

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VENUS drawing pencils

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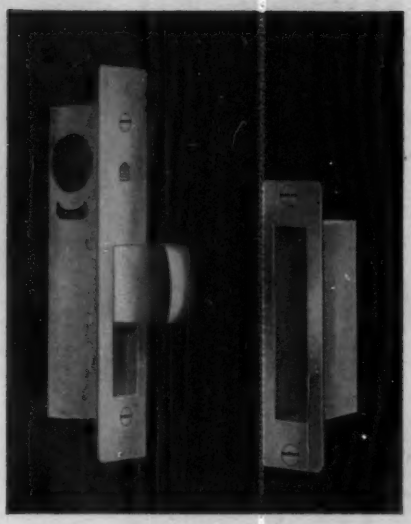


ADAMS RITE

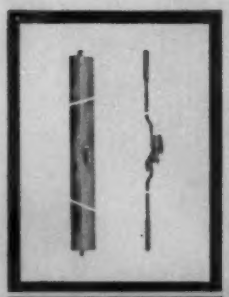
Maximum Security Narrow Stile Locking Devices

For New or Replacement Installations

Whether you specify, install, or sell narrow stile locking devices, you can be confident that Adams-Rite offers the utmost in design, construction, simplicity and safety. Check these advanced ideas that insure top performance and lasting customer satisfaction:

Illustrated above—Maximum Security 1850 Deadlock:

This is the unit that provides Maximum Security for modern narrow stile swinging glass doors. The pivoted bolt actually bridges the opening with a bar of steel, retaining as much bolt within the lock stile as is projected. Its protection is so great that forced entry is impossible without destruction of the door itself.

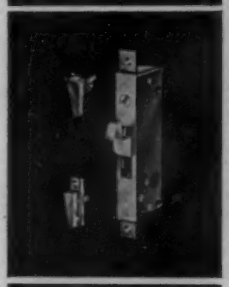


MS 1849 Two-Point Door Bolt:

The modern method for locking the inactive door of a pair of narrow stile doors. Top and bottom bolts are locked or unlocked by natural operation of an attractive turn conveniently located on the inside surface. Positive deadlock of both doors is automatically provided when cylinder deadlock is thrown.

970 Minimum Backset Deadlock:

This unit provides economical deadlocking for rigid narrow stile swinging doors. Like all Adams-Rite narrow stile locks, the 970 Series operates with standard mortise type cylinders of any make.



1848 Deadlock for Narrow Stile Sliding Glass Doors:

Every sliding glass door deserves the same protection demanded of any other exterior door. The 1848 gives security with an adjustable heavy hook type bolt with which turn and cylinder controls are used. For added safety, the bolt collapses if the door is accidentally shut while bolt is projected.

1450 Deadlocking Latch:

Traffic control is made possible in a narrow stile swinging door entrance by use of the 1450 Series Deadlocking Latch. Two-way traffic flow or restricted entrance is achieved by a simple selector. Ideal for any public area with a closing-hour problem, such as banks, markets, apartment houses, etc. It satisfies building and safety regulations.

1340 Series, Deadlock and Latch:

Combination deadlock and latch for narrow stile swinging doors. A simple selector changes the unit from free swinging to latch action. The positive latch action helps prevent air losses when temperature control systems are used.

Complete specifications and information on request.

Specify, Sell, Install the Finest

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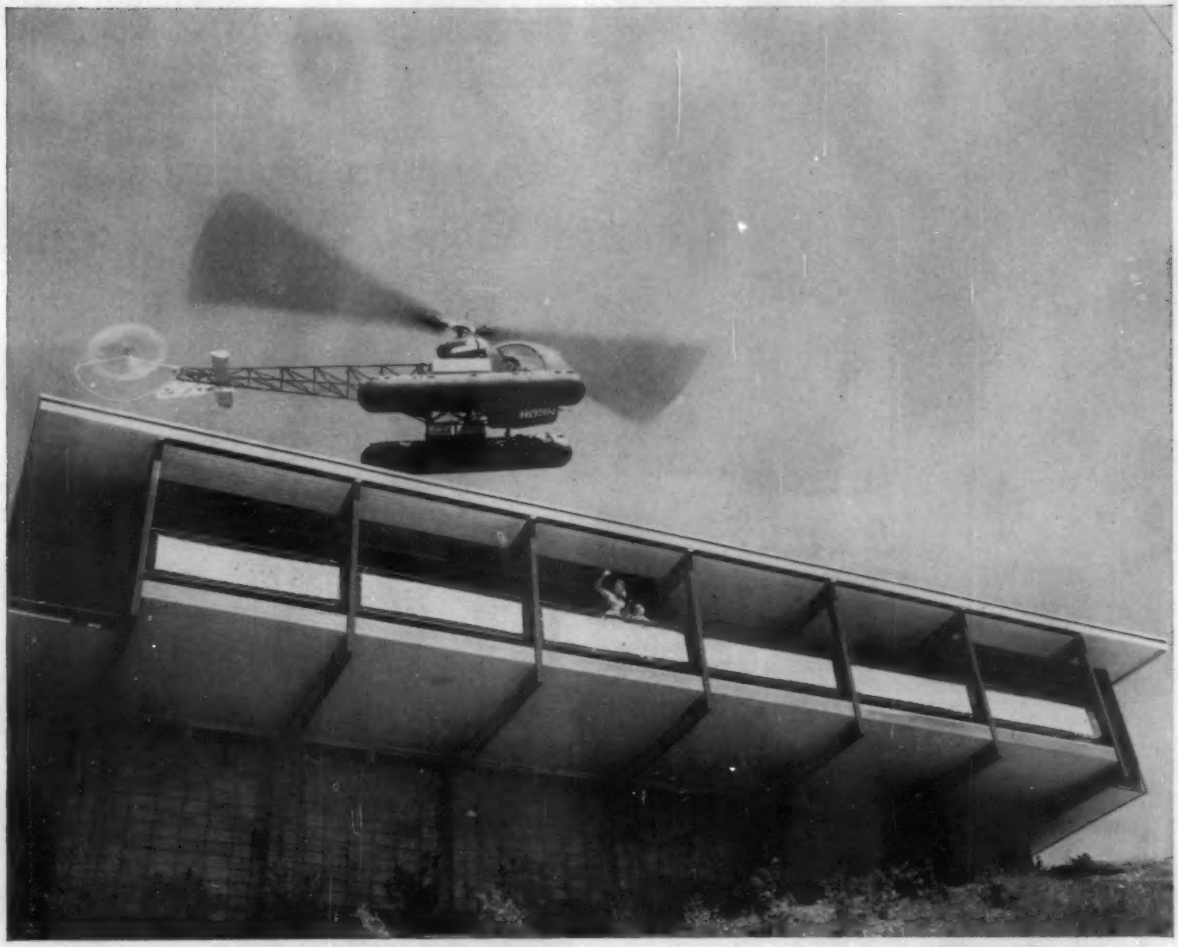


Steel-Framed Home of the Future

Built with an eye to the future is this steel-framed house in Oakland, California, designed to serve as a home heliport. And for this function, the house had to be so solidly built that only steel could do the job.

There were other advantages in using steel framing. Since the steel frame carries the load, curtain walls are lightweight material including large glass panels. All supporting elements of the house are incorporated in a series of six continuous rigid steel-framed bays. The steel won't warp or rot, and where left exposed, it is attractive to the eye. And it took just two hours to put up the entire steel frame!

Bethlehem structural shapes were used in the building of the spacious house and its attractive patio.

Owner-builder: Roy D. Nichols; *Architect:* David Thorne; *Structural Engineer:* Donald H. Moyer; *Steel Fabricator:* Herrick Iron Works.

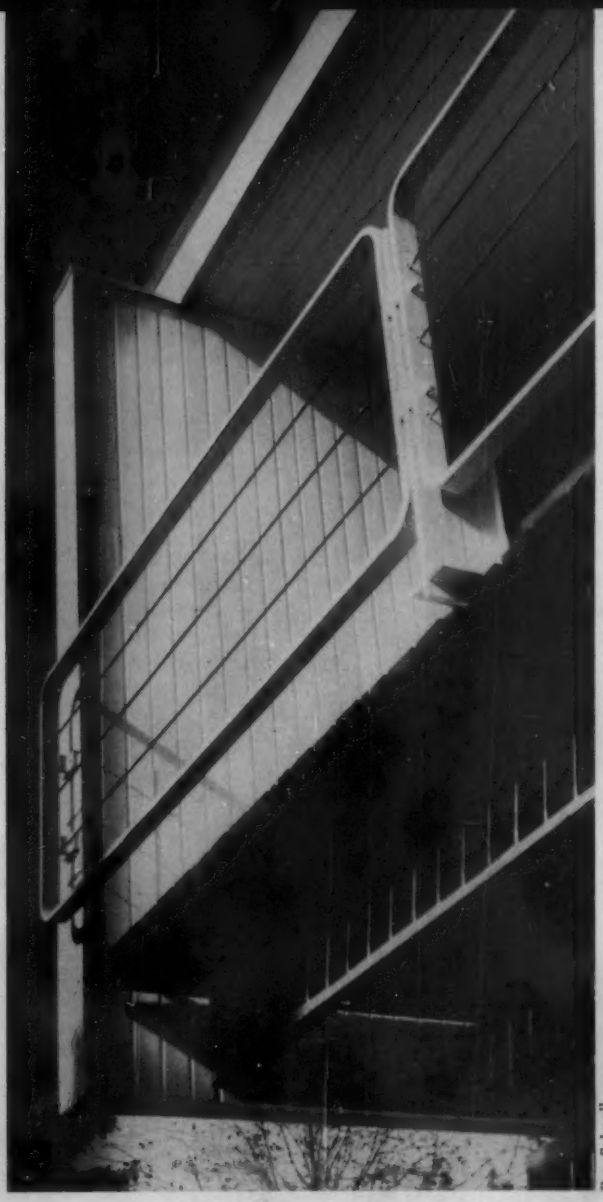
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

ARCHITECTURAL RECORD MARCH 1958



Ben Schnall

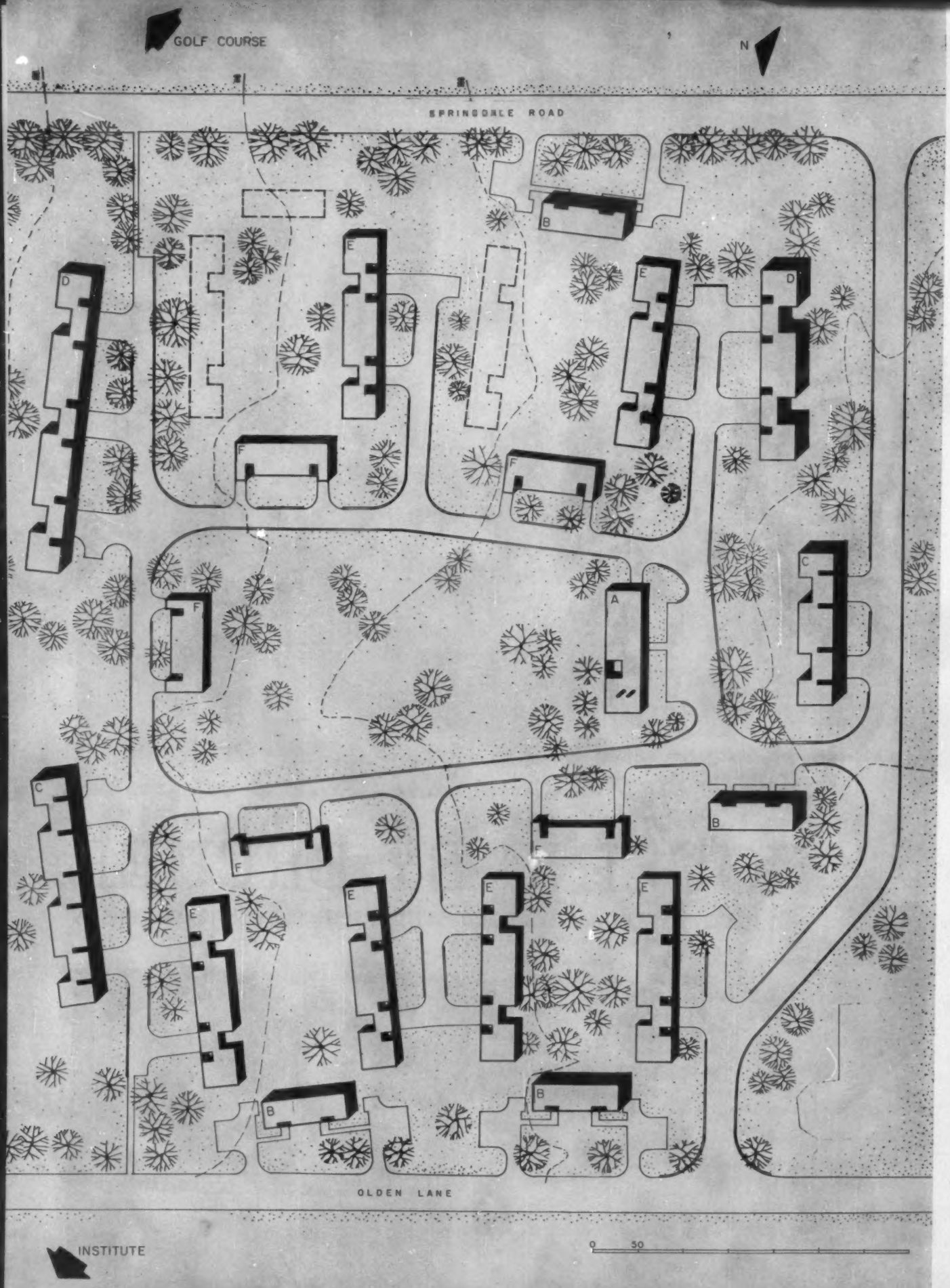
Quality
Accommodations

HOUSING BY BREUER

THE INSTITUTE FOR ADVANCED STUDY, PRINCETON, NEW JERSEY

For A Community
Of Distinguished
Scholars

Continental Air Views


GOLF COURSE
N
SPRINGDALE ROAD
OLDEN LANE
INSTITUTE
0
30

Continental Air Views

In the aerial views above, one can see the Institute building in the foreground, lower picture; the new housing across the road, center; and the golf course beyond, top. The town of Princeton and the University lie in the distance beyond the golf course—roughly a 10-minute drive away.

The membership of the Institute For Advanced Study is composed of scholars selected for their attainments in mathematics, physics, or historical study. Their ages vary; some are unmarried; the majority have families. But all have in common an ardent devotion to the pursuit of learning, and all are situated in a semi-retreat away from the town. In designing housing for such a group, individual comforts and amenities were of course a basic requirement for the units and their siting. But the provision of an environment and facilities for the community spirit of the membership was the factor that weighed heavily in planning the arrangement of the plot.

The dwelling units—of five types ranging from bachelor singles to 3 bedroom plus study units—were grouped to form a series of courts where children at play may be watched. All dining-kitchen and living rooms face the courts for this reason, as well as for favorable outlook upon no-traffic areas. Bachelor units (designated B) are placed on the periphery, closing the courts at these points and providing convenient access to the Institute dining facilities across the road. Note that the courts are not closed quadrangles but are suggested enclosures, free at their corners and visually open where carports cut through the buildings.

The focus for the plan is the common, or "village green," dedicated to adults and community affairs. It is ringed by the main access road, called Einstein Drive. Through travel is discouraged by bending or narrowing through roads; service traffic is kept away from courts. Where units are shown dotted, several existing cottages will remain temporarily for added housing, community use, and expansion.

The natural configuration and character of the land were carefully maintained; trees were saved wherever possible. Buildings were placed with their lengths paralleling existing contours in order to minimize excavation and grading.

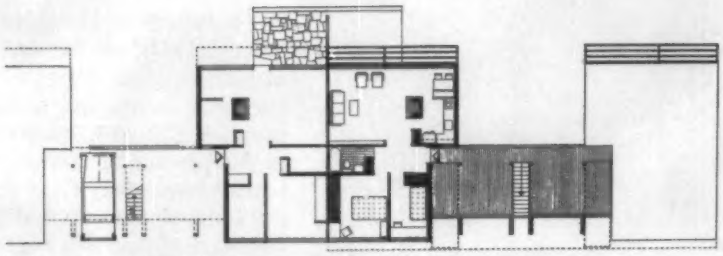
Architect: Marcel Breuer; Associate, Robert Gatje. Engineers: Slocum & Fuller, Consulting; Wiesenfeld, Hayward & Leon, Structural. Landscape Architect: Bryan J. Lynch. Builders: Sovereign Construction Co.

AREA COMPUTATION—All Areas Gross

TYPE	UNITS	SQ.FT./UNIT	SUB-TOTAL	USE
A	1	980	980	Caretaker's Apt., 3 BR's
B	32	515	16,480	Single Occupancy with Kitch.
C	20	755	15,100	LR, K-Dining, 1 BR, Study
D	20	1,035	20,700	LR, K-Dining, 2 BR's, Study
E	24	1,035	24,840	LR, K-Dining, 2 BR's, Study
F	10	1,130	11,300	LR, K-Dining, 3 BR's, Study

RECAPITULATION

Floor Areas, 107 Living Units	89,400 sq ft
Porches and Carports	24,900 sq ft
Service Areas (Laundry, Boiler)	4,400 sq ft
TOTAL PROJECT	118,700 sq ft



Type C; ground floor at left, upper floor at right

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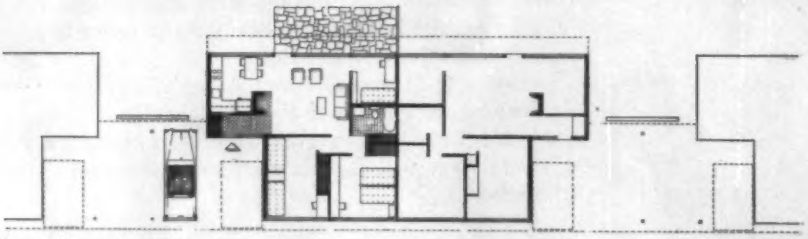
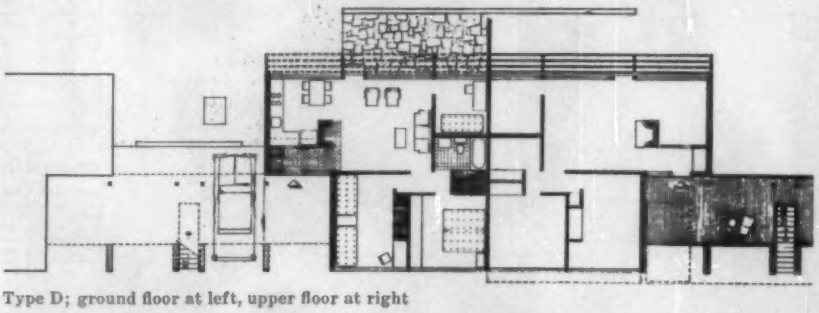
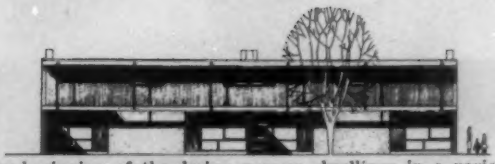


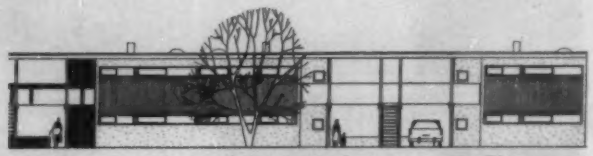
Type E; one-story unit



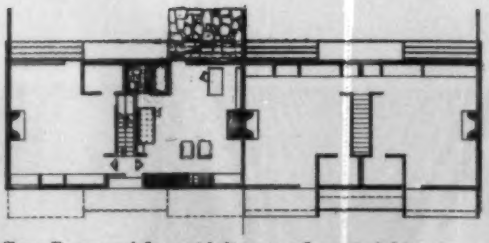
Type D; ground floor at left, upper floor at right



At the beginning of the design process, dwellings in a variety of shapes were considered, but the decision was for the restful horizontality of one and two-story row houses; modified from the conventional to rob them of the monotony so often associated with that kind of building. This was accomplished by means of changing roof overhangs, sunshades, screen and terrace walls of contrasting



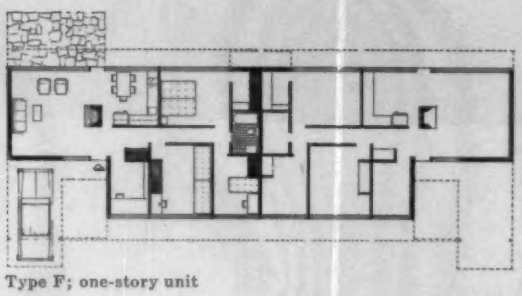
masonry, open stairways, balconies, and open carports. The carports prove especially effective in breaking the "row" impression, and as they occur, provide vistas through and beyond the houses. Also, their roof decks serve double duty as porches for the occupants of the upper floor at that location. There are five types of apartments, B through F, and they are shown on these two pages by means of the



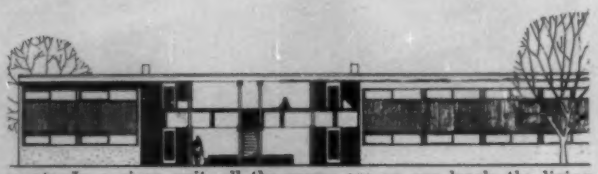
Type B; ground floor at left, upper floor at right

architect's presentation plans and elevations. The type A unit—of which there is only one—is pictured on the following page; a tabular summary of the occurrence and areas of types is printed on the preceding page.

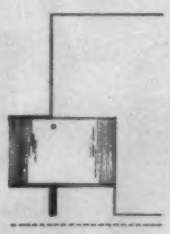
Study of the plans will reveal certain features—unusual in the design of institutional housing—that are common to all the apart-



Type F; one-story unit

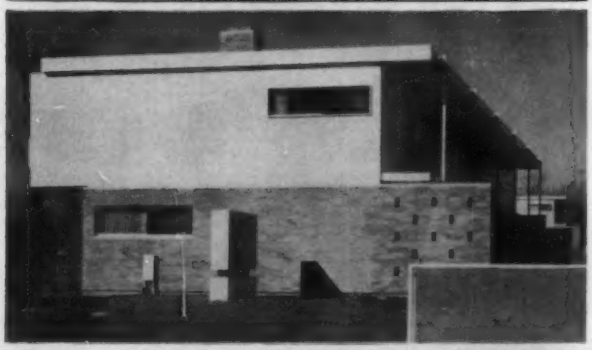


ments. In a given unit, all the rooms are on one level; the living room and dining-kitchen areas open to the garden court, either by terrace or protected balcony; the dining area is adjacent to the living room, either opening to it or screened off; the bedrooms are of sufficient size to accommodate two beds plus an area for study; the study proper is designed to be used alternately as a bedroom



for a guest or an additional child; kitchens are located near entrance doors; and every apartment boasts a fireplace!

On the exterior, high strip windows in the entrance façades of the buildings provide privacy for the rooms facing this way; and sun protection is furnished either by roof overhangs or wood louvers for all glass areas that are exposed to strong sunlight.

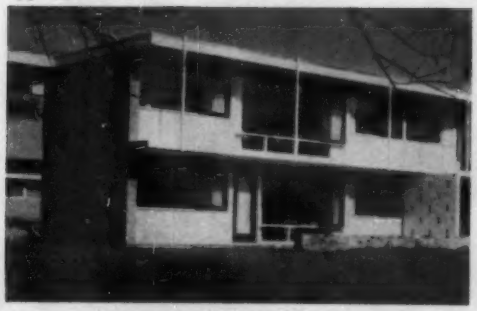


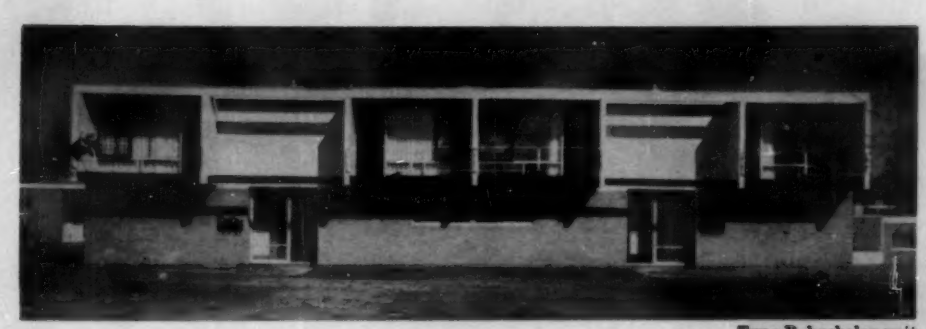
The single type A unit, top, houses the superintendent's apartment and central heating plant. A typical carport is shown above.

Exterior materials and colors: light orange-rose brick; natural cedar siding; trim and fascias painted white with black accents; free-standing electric distribution boxes variously painted in vivid colors. The construction is conventional wood frame with brick veneer; the sliding sash are of special design.

A fireplace for each apartment

Type E, court side

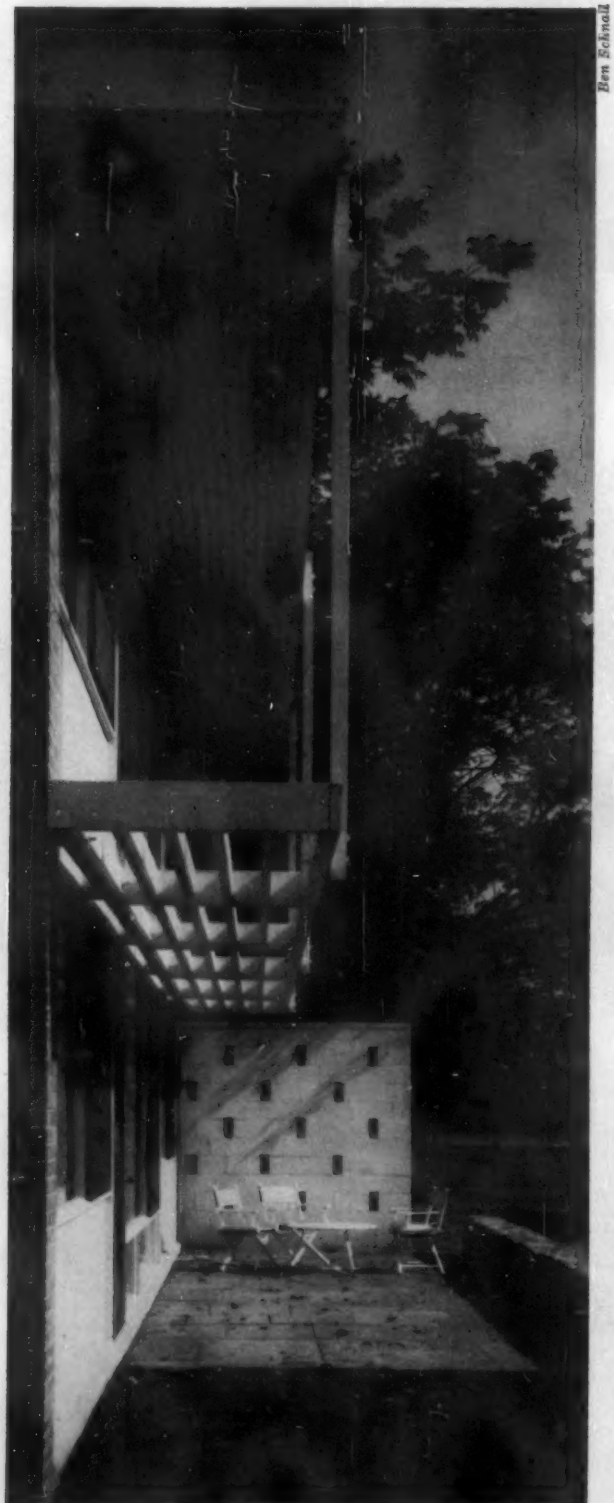




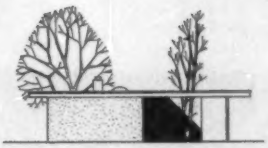
Type B, bachelor unit

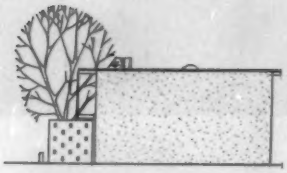
All photos by Ben Schnall

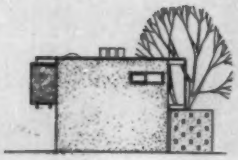
Type F, entrance side



Ben Schnall







One can note, in the above picture of a typical terrace, how screen-walls of concrete block are employed to secure privacy. The block —which are painted light gray—are laid in a pleasing pattern of solids and voids that robs the screen of apparent heaviness. The louvered sunshade—in addition to serving its prime function—lends also a feeling of shelter to the terrace space.

American Design to Brighten Bogotá

Edificio Esso for Colombiana, S. A. Bogotá, Col.

Architect: Lathrop Douglass

Structural Engineer: Leon Selzer

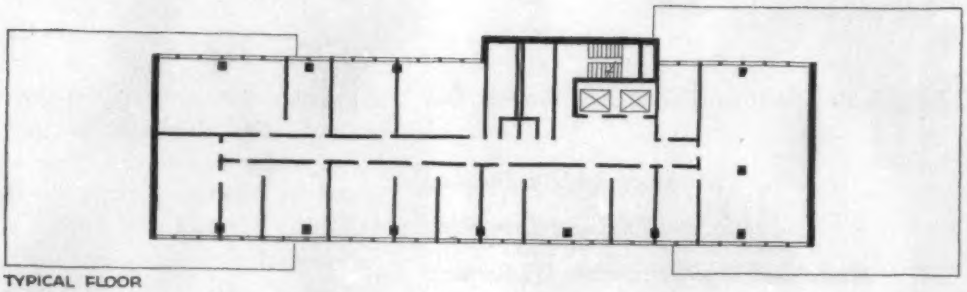
Mechanical Engineer: Sidney W. Barbanel

General Contractor: Martinez Cardenas y Cia.

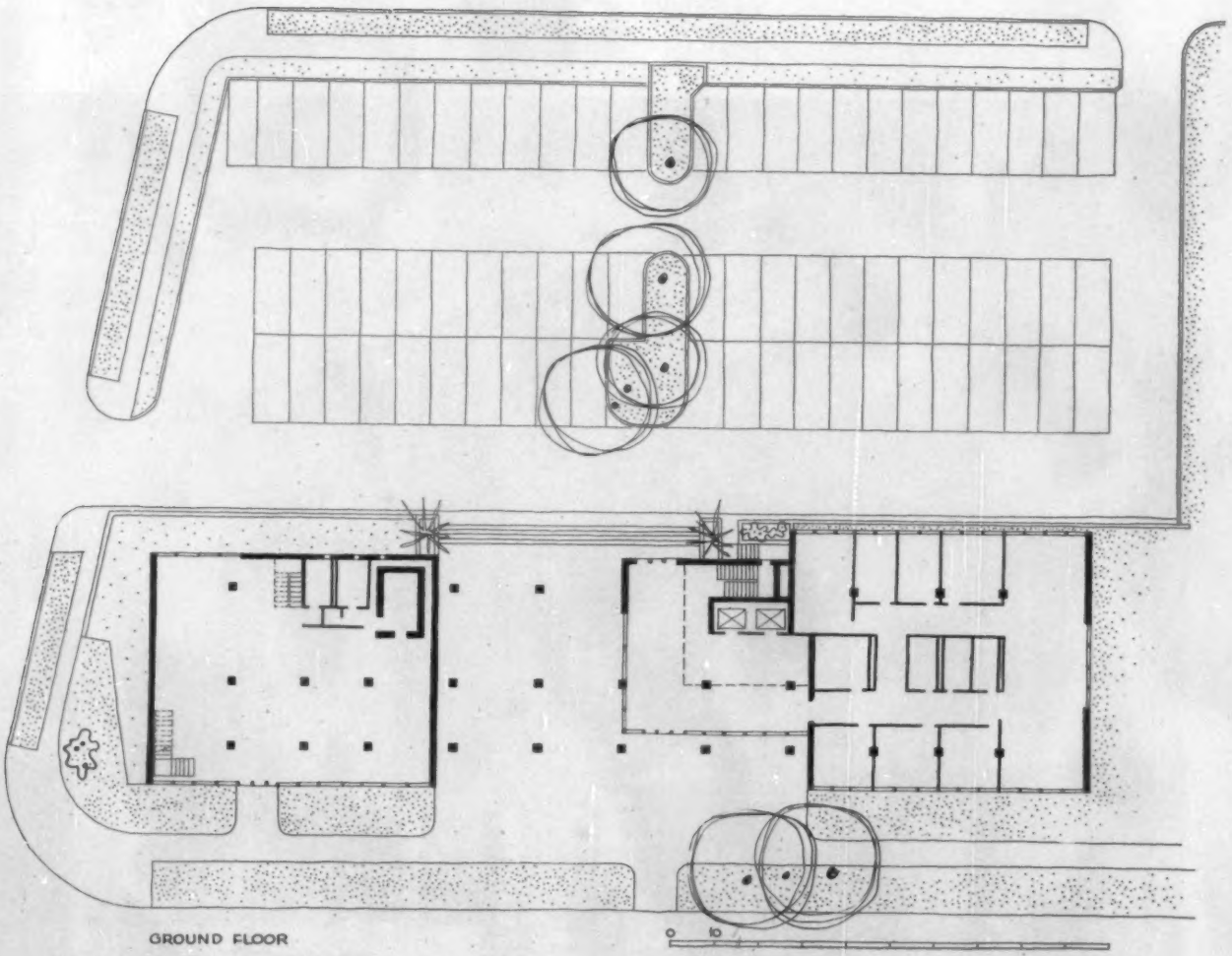
Interventores: Pizano, Pradillo y Carlo

While exporting some solid American know-how on large office buildings, this one also exerts a bit of leadership toward brightening the local scene. As it happens the architect was first retained as consultant to review the company's space requirements, analyze building economics, and select a suitable site. But he was also thinking in environmental terms, and the site chosen offered good possibilities in this regard. It is on one of the main avenues leading toward the residential section, in the path of business expansion; more importantly it faces a handsome park with a grand view of the Andes. As for the

All photos by Paul Beer



TYPICAL FLOOR

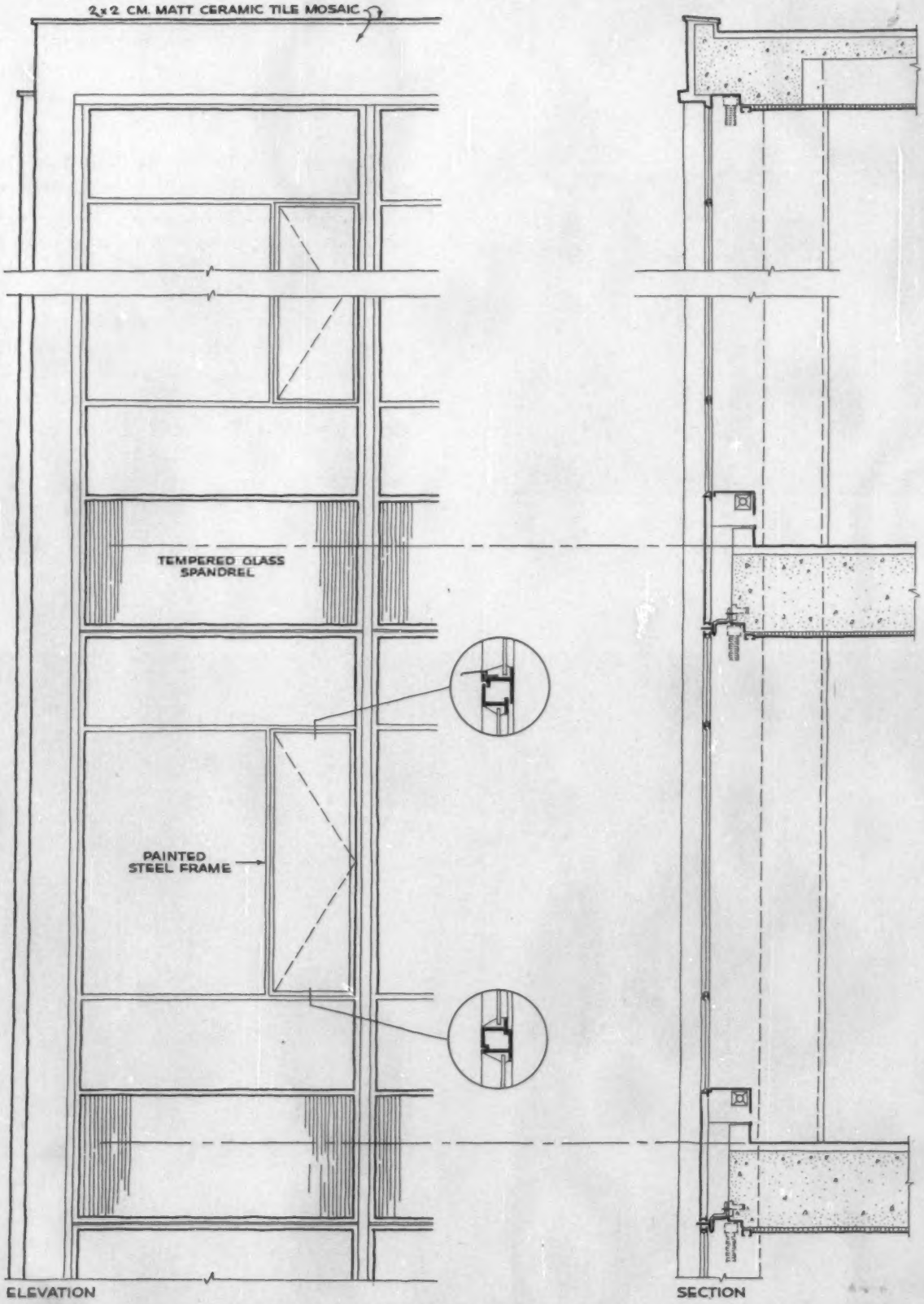


GROUND FLOOR

Esso Building, Bogotá

brightening effort, beyond the normal development of the scenic possibilities, the local climate is given to almost continuous overcast skies. The temperature is equable, with virtually constant year-round readings of around 50 degrees, but the cloudiness tends toward drabness. Most local buildings, moreover, were colorless and drab. Hence the architect hoped to establish a new trend toward color: opaque glass spandrels are deep blue; metal fenestration grid is dark brown with white sash; tile end walls are in a variegated pattern of white, tan and dark brown. Other spots of color enliven the overall effect.

In some other locations near the equator the architect has made much of orientation to keep hot sun out of the building, or to obviate a glare



DETAILS OF UPPER FLOOR WINDOWS – EAST AND WEST FACADES

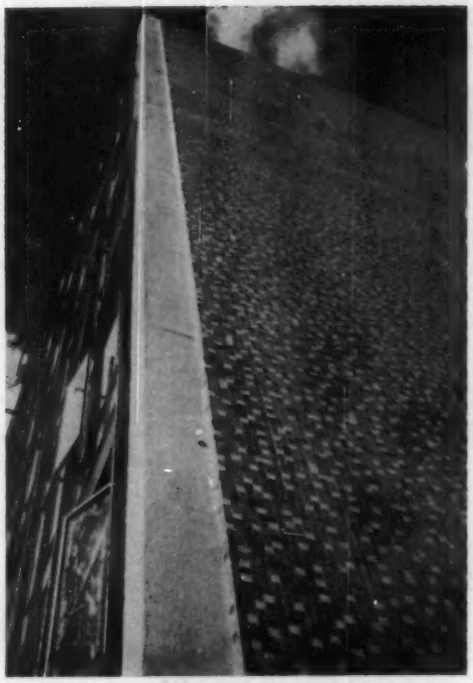
Esso Building, Bogotá

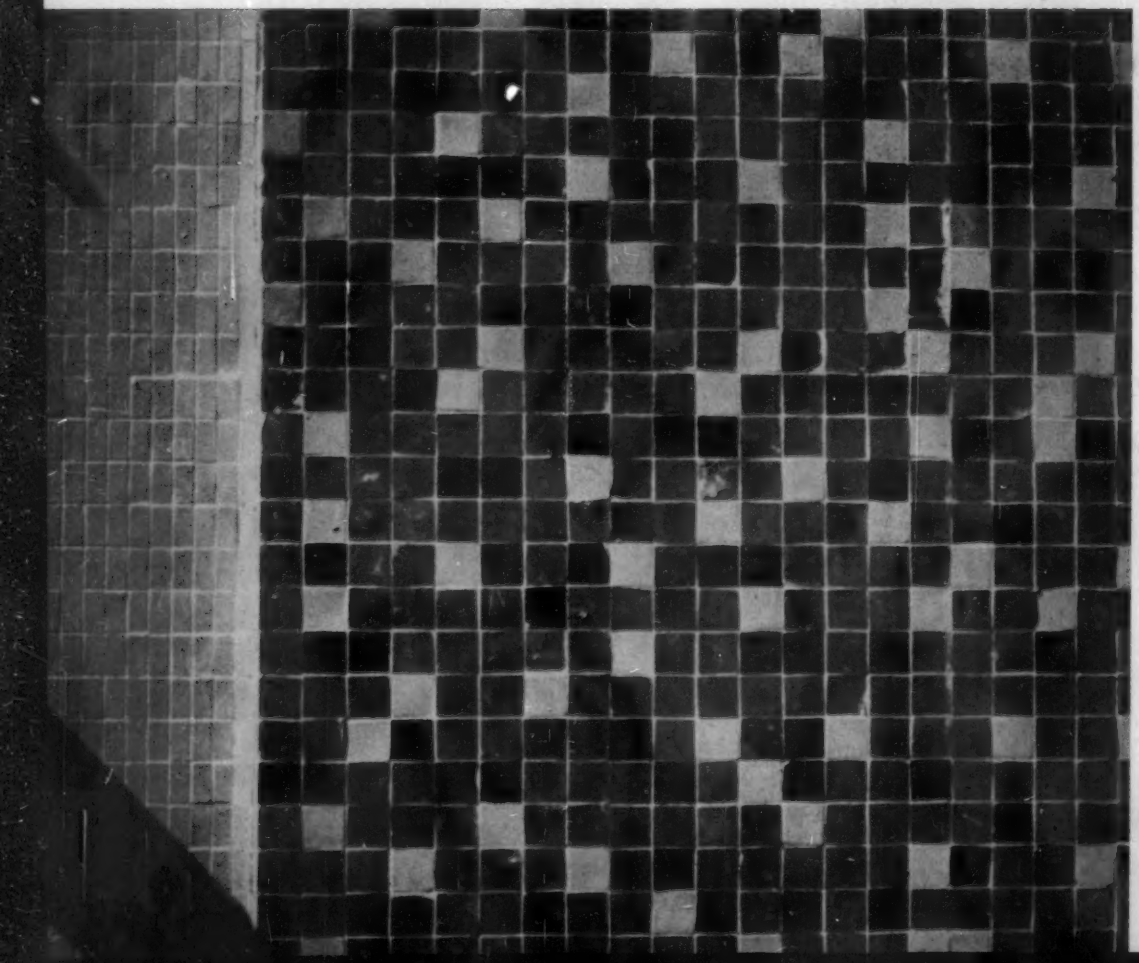
situation. Here, however, the normal scheme would be to run the building east and west, to catch the heat from occasional sunlight. But this was scarcely important—a simple hot water heating system is provided—and the company wanted the display value of frontage along the street, and the mountain view; hence the building runs north and south.

The masses of the building express three main types of space in the program. At ground floor level there is a two-story unit for medical and personnel departments, and a rental unit of similar size for a branch bank. The main office building straddles these two bases, leaving an open space through the building to develop a sense of enjoying the views from either side.

Esso Building, Bogotá

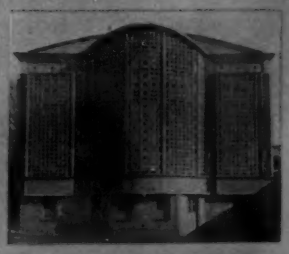
The frame is reinforced ribbed concrete designed closely for lightness and economy. Forms are of bamboo and are left in place after the pouring. The bamboo is woven together to form small boxes, like metal pans, and saves importantly in weight as against the tile filler commonly used. The bamboo need not be removed, can in fact be used as lathing where plastering is necessary.

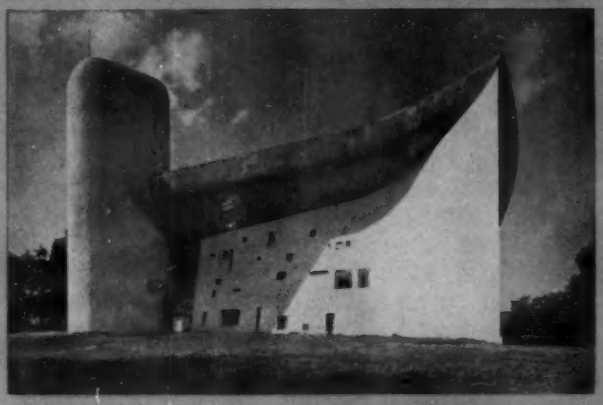




A PILGRIMAGE: *Ronchamp, Raincy, Vézelay*

by John Ely Burchard





Credits: Top, Raincy, photo by Chevojon; bottom, Vezelay, Samuel Chamberlain. Except as noted all photographs of Ronchamp are taken, with permission, from "Le Corbusier Oeuvre Complete, 1952 to 57;" Wittenborn & Co.; Photographers: Bernhard Moosbrugger and Robert Winkler

Last summer, along with hundreds of others, I made my pilgrimage to Notre Dame du Haut on the little hill outside Ronchamp. It is a little hill; Notre Dame is a little chapel; but the experience is not little.

Most comment about the work of Le Corbusier tries to sound objective. It affects the impersonal language of analytical criticism or adopts a mystic aureole of high-sounding words to conceal subjective praise or blame. The praise sounds particularly eloquent in French:

"La Chapelle? Un vase de silence, de douceur."

LE CORBUSIER

"Ronchamp? Un sourire, un rayon de soleil pétri de douceur et de silence . . . Ronchamp est lumière . . . les lumières de Ronchamp . . . sont d'espérance et d'amour."

JEAN PETIT

I do not plan any such hocus-pocus here. No man of our day can be really objective about this remarkable and puzzling architect or his persuasive and disturbing chapel. I do not pretend to be and so write in the unabashed first person.

There is an excellent injunction on the fly-leaf of the official book of Ronchamp, *"Il faut toujours dire ce que l'on voit, surtout il faut toujours, ce qui est plus difficile, voir ce que l'on voit."*

There are a number of postures that make it impossible to see. You cannot see Ronchamp if you are the single admitted native American architectural genius sitting on Parnassus, ignoring with Olympian disdain the architectural work of every other living man. In that posture you have no occasion to go to Ronchamp at all.

You cannot see Ronchamp if you approach architecture with austerity and a desire that the world should settle down to its main business of refining an already excellent, almost classic, form of steel and glass. You may go to Ronchamp, but its plasticity, its lack of precision, its spontaneous imperfections will offend you and confirm you in your previous conviction. You cannot see Ronchamp if you have an anticontemporary philosophy, if you have concluded, after modestly sophisticated study, that "modern is washed up" and that we need to find a new Richard Morris Hunt as soon as possible.

You cannot see Ronchamp if you are a lady correspondent, who thinks that her personal preference for or against coral pink has anything to do with architecture, and who has reached the astounding conclusion that a layman is about as likely as an architect to design a good building.

You cannot see Ronchamp if you have been brought up in a small Protestant village church, have traveled little, continue to judge what is a "good" chapel by the standards you acquired in your impression-

able rural youth and are now a member of a committee of Congress trying to decide what kind of chapel will be good for an Air Force Academy.

If you are any of these people, you cannot see Ronchamp or you will detest what you think you see. The resemblance of my characters to anyone, living or dead, is quite intentional.

But it is also possible not to see Ronchamp because your eyes are too wide open. You will not see it if you are in a state of uncritical euphoria about everything "modern." You cannot see it if you are more discriminating than that but believe that everything by a master must be a masterpiece. You cannot see it if you are over-zealous to find a plastic architecture to confront the solid phalanx of the Miesian idiom.

Finally, you may be able to see but not be able to speak. This may happen if you have been an advocate of what was once a revolutionary avant garde but cannot now believe the revolution is over, or see how pitiful the ranks of the "enemy" now are!

Of course I have my limitations, too. Let me admit the ones I recognize: First, I am not a Catholic. I know intellectually the differences between a chapel, a basilica, a church and a cathedral; between a place of pilgrimage and a place of regular worship. I know what happens in the Mass, pretty fully on the intellectual side and partly, I think, on the emotional, though I do not participate in it. Though I believe that practically all the greatest art in the world has been made in the service of religion, the statue of the Virgin is yet, for me, a statue. I do not know how much one's eyes are closed to the ultimate meanings of Ronchamp if he has the bad luck not to be a Catholic, but I have to believe that something important goes unseen.

I am a country boy from the Middle West and was brought up in a modestly ugly Congregational church, under what I now realize was a bad stained glass memorial to my grandfather. During the First World War, almost by accident I wandered into Winchester, looking for the Round Table. This was the beginning of a long love affair.

It was hard to carry on a love affair like that in the architectural school of M.I.T. in the early twenties. You did not design in Gothic until you were well along and I couldn't even master the design of the Petit Trianon to get along. The historical explanation of Gothic was the mythical one of Cram and Henry Adams. It did not explain why Cram's churches were unconvincing, why they did not lift up the heart as the smallest Burgundian or Auvergnat church might do.

This was nothing simple like the absence of iconography on one and the presence of a rich book on the other; it was nothing complicated and intellectual like the missing relation of Thomism to plan and structure or pragmatic like the hunch that the real Gothic builders would never have worked so hard to make a stone vault if they had had structural steel. No, it was simply visceral. I am only happy that what I later knew did not deny what I then felt. The point of this is that I still feel better about French Romanesque than about any other Christian architecture I know, and this means Poitiers, Moissac, Conques, Tournus, Saulieu, Avallon and Vézelay. Behind these in my heart are Bourges, Amiens, Chartres and Paris.

I can hope that we may contrive, within the convictions of our day, something not the same but as excellent. To manage it we shall have to have as powerful convictions and as much skill. One without the other will not be enough. I hope I can recognize it when it is made, but I don't covenant to love it as much.

I think we may have come pretty close to such an excellence in a few contemporary churches, though many are empty, displaying no vigor, providing no peace in their sterile little laminated-truss sheds. When I say "a few" churches, the reader has a right to wonder what sort. Perhaps a list will offer the neatest revelation of prejudice. Of churches I feel I know, here is my "first ten":

St. Engleberts at Riehl, by Dominikus Böhm
Notre Dame du Raincy, by Auguste Perret
Dominican Convent at Vence, by Matisse
Church at Assy, by Novarino and Malot
St. Antonius at Basel, by Karl Moser
Reformed Church at Zürich-Altstetten, by Werner Moser
Christ Lutheran Church at Minneapolis, by Eliel Saarinen
Interdenominational Chapel for M.I.T. at Cambridge, by Eero Saarinen
St. Mauritius Church at Saarbrücken, by Albert Dietz
Swedenborgian Chapel at Palos Verdes, by Lloyd Wright

From the photographs I thought that Ronchamp would have to push something off the list, and the question was what, since very exciting things like Maurice Novarino's Church of the Sacred Heart at Audincourt were already left out.

Then there is possible prejudice about architects. I admit to the conviction that I can predict which six living men over fifty will most surely be in the history books. They are Wright, Niemeyer, Gropius, Aalto, Mies van der Rohe and Le Corbusier, and of these I believe Le Corbusier is the most provocative, the most inventive, but not the most classic, refined, gay, sensitive, or human. None of these men hits the bull's-eye every time. A genius must be judged by his best work, not by his high average performance. I felt before going to Ronchamp that Corbusier would be regarded in the long run of history as the foremost influence on his architectural time, but not as its greatest artist or architect. For this highest

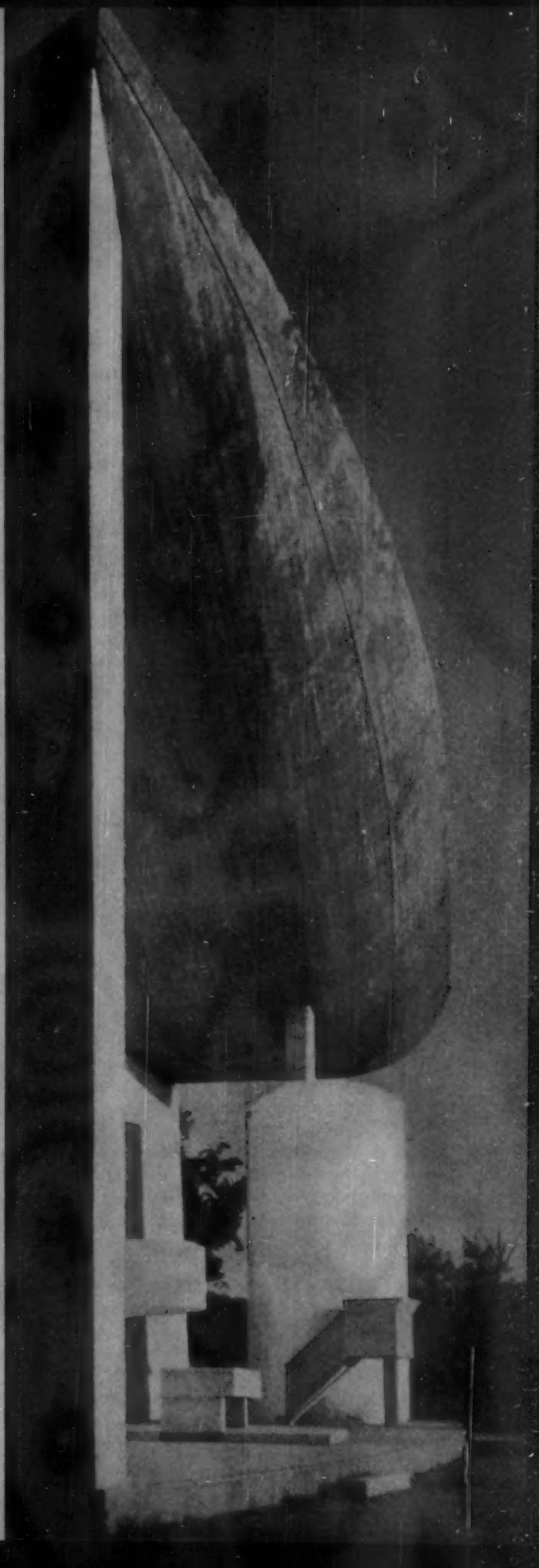
accolade I thought he was too careless. I came back from Ronchamp feeling the same way.

These were the prejudices I brought to Ronchamp. I made some special preparations and visited or revisited in a rather deliberate order the Ste.-Chapelle, the little Benedictine Church of Saint-Pierre de Montmartre, the basilica of St.-Denis, Notre Dame du Raincy, the Cathedral of Saint-Etienne of Sens, the church of Saint-Lazare at Avallon, St.- Andôche at Saulieu, the monastic church of the Madeleine at Vézelay, and the Cathedral of Saint-Lazare at Autun. After the event I returned for a brief and disappointing reunion at Rheims. Though each of these had a purpose in my plan, I mention them only to suggest a background. Here, except for Ronchamp, I shall adduce only Le Raincy, Saulieu and Vézelay.

Le Raincy was a revelation. It sits on a dull site on a drab street. You cannot really walk around it, and there is little or no important sense of the exterior. Its greatness is entirely inside, for which no photograph has prepared you. When you are in it you no longer care that it was a pioneer in the overt use of steel and concrete in a church. You are not very interested in the basilica-like choirless plan. You notice that Perret brought the altar down on the floor, but it does not seem important that this was an early example of a now common liturgical de-emphasis of the gap between ministrant and people. Of course you feel the slenderness of the piers and how smoothly they flow into the slightly arched roof. But the overwhelming single impression is of the prismatic light which runs the gamut of the spectrum from narthex to altar. This light permeates all the walls and filters on to all the floor through the consistent and orderly honeycomb of concrete. It makes our little, much admired, tries at blocks of light in church walls seem timid and tepid. It is a Ste. Chapelle but with a difference. It has no serious iconography and no imperial symbols; it is simpler than the great chapel of the saintly Louis IX; it reads at once, it has unity, serenity, peace and sanctity. It achieves all this with no sense of shock. It was comprehensible to my cab driver who had never seen a modern church before. Le Raincy asks of Ronchamp, do you promise as much?

Ronchamp's billing as the hall of light is false. It uses light well and mysteriously in its own way, it has its own and different unity, but its light is neither so brilliant nor, paradoxically, so serene as the light of Le Raincy. I cannot judge of the sanctity.

Saulieu, like many old buildings, is incomplete. Its transept and its Romanesque choir were burned away in the mid-fourteenth century. The present small choir was badly added in 1704. It almost slumps, just off National Route VI, near a restaurant that is presently more famous. The eighteenth-century dome sits on top of a Romanesque tower like one of the helmet hats girls wore in 1928. Again you have to go inside. Then you find a simple Cluni-



sian nave, only five bays long, enclosing one only moderately high and quite narrow space. There is no intricate vaulting, only heavy ribs springing rather flatly from uncolonetted supports. The blind arcade with four semicircular arches in each bay provides no light. Above in each bay a single arched window, very near the springing of the vault, offers a reveal, deep as the embrasures of Ronchamp. But at Saulieu the windows are evenly spaced, the rhythm is one that is sensed at once. Some of the rhythms of Ronchamp are not so easily connected. Saulieu is not a light church, albeit not much darker than Ronchamp. The light has reverence, it is not startling, it never hits you in the eyes, it moves rhythmically and hieratically with the path of the sun. It is a light that is always in order and never in chaos; for Saulieu was not built to proclaim that God had established a universe of chaos.

The important comparison from Saulieu, though, is to be found on its capitals. If Ronchamp had no iconography this would not matter. But Ronchamp does have iconography and must stand the comparison. It is fair to compare it with the work of another time and place. The work of Saulieu is worth pondering for its meaning to us now, not so much for its explicit texts, or as an example of a Romanesque style, or for its quaint charm or even its macabre quality, but for its living contemporaneity. The blinded eyes and the bended knees of Balaam's donkey are more than touching. They carry all the messages of the horses of Guernica and a few others. Joseph's expression as he thrusts his sack over his left shoulder and, rope in right hand, leads his wheel-mounted donkey around the corner of a capital is an expression of eternity. The face of Christ in the resurrection capital goes beyond the capacity of later sculptors towards a divinity that was lost when they tried to make Christ simply "the most beautiful of the children of men." The little dashes of paint that Le Corbusier has seen fit to throw upon his glass are simply not in the same class. The inscription of the Magnificat spread through the windows, even in the personal calligraphy of Le Corbusier, is not as moving as the sightless eyes of Balaam's ass even if the eyes were carved long ago by a naïf and anonymous artist and the writing is by one of the most famous and sophisticated men of our day. Perhaps the word is too respected in our world; perhaps Le Corbusier is too much with the word; perhaps the word, perhaps the complete abstraction, is not yet a substitute for the picture. Perhaps the unknown carver believed more in what he carved than the acknowledged genius did in what he wrote. I do not know the reason. I can only report the fact as it appeared to me. Ronchamp would have lost nothing important by the loss of its iconography; Saulieu would.

Then we came to Vézelay. Like Ronchamp, it is on a prominent hill in hilly country. Its country is more pleasant than that around Ronchamp, but the backdrop of the Vosges is more impressive than the backdrop of Vézelay. Vézelay can be seen for longer and from farther and is altogether bigger, but these are not the useful comparisons.

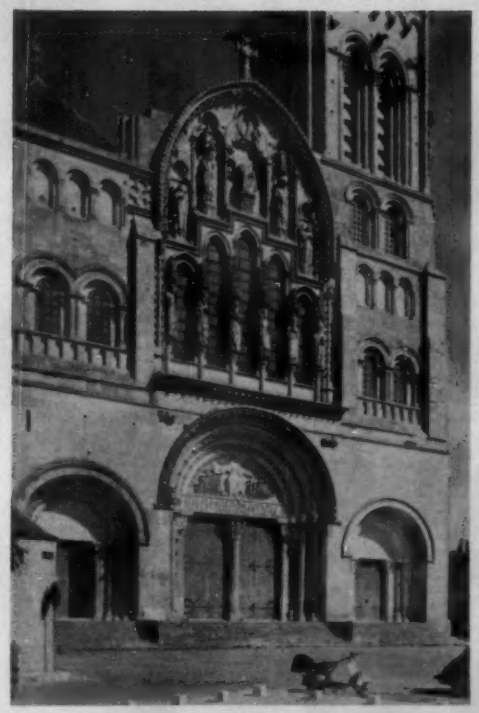
The buildings are separated by eight hundred years in time but not by as much in purpose. Each was in its day intended to be an important place of pilgrimage, though Vézelay no doubt had the wider fame. The descriptions of the concourses of pilgrims, where they slept, how they ate, what miracles of healing were concluded, sound much the same through the centuries.

Vézelay is a remnant of what was once one of the most important abbeys in Christendom; despite all the publicity, Ronchamp is a minor shrine, built as a whole with not much money, springing from one mind and in a single jump albeit on an ancient foundation. You must discount the size of Vézelay, its portals, and forget the iconography, too. Ronchamp has no sculpture; Vézelay has some of the finest in the world. But Ronchamp is its own total sculpture and Vézelay is only architecture. Whether architecture should be sculpture you will have to decide for yourself.

Places of pilgrimage they are, however, built on

different concepts. At Vézelay the pilgrim is expected to get into the church. This is splendid in bad weather and the weather in sunny France is bad a good deal of the time. At Ronchamp the pilgrims, when they come in large numbers, are expected to worship from outside and the east front is designed for them, the east front and half a hill. This has the advantage of being less confining but has one important disadvantage.

A major problem of pilgrimage architecture is to focus the attention of the worshippers on the shrine. Vézelay does this to perfection. The usual verticality of the Gothic and even of Romanesque churches has been disciplined by a magnificently apparent hori-



"Le Raincy (across page) was a revelation . . . the overwhelming single impression is of the prismatic light . . ." "Vezelay (center) is a remnant of what was once one of the most important abbeys in Christendom . . . to focus the attention of the worshippers on the shrine. Vezelay does this to perfection . . ." "The important comparison from Saulieu is to be found on its capitals . . ."

Credits: Raincy, G.E. Kidder Smith;
Vezelay, Samuel Chamberlain,
Saulieu, Pheliphot, via Zodiaque, January, 1955

zontality. Three sets of capitals on every pier establish three horizontal lines. Many more are provided by the alternating pink and white stones in the ribs of the barrel vault. Together they combine, autocratically to be sure, to lead the eye to the ribs of the choir which then draw it down inexorably to the altar. Ronchamp has no such obvious external discipline and indeed deliberately denies it. There is even competition between the pulpit and the statue of the Virgin, but the east wall remains impressive and eye-arresting. Since what happens before this wall serves the main purpose of the shrine, we might ask no more.

It is not quite so simple inside if we stick to architecture. The many interests of the interior encourage perhaps too much democratic or even anarchic dissipation of interest. Vézelay permits no such byplay. It has a magnificent and convincing order. Of Vézelay's interior you instinctively think of the words "simplicity," "clearness," "unity." You shrink from using them for the interior of Ronchamp and then you hesitate and are not sure.

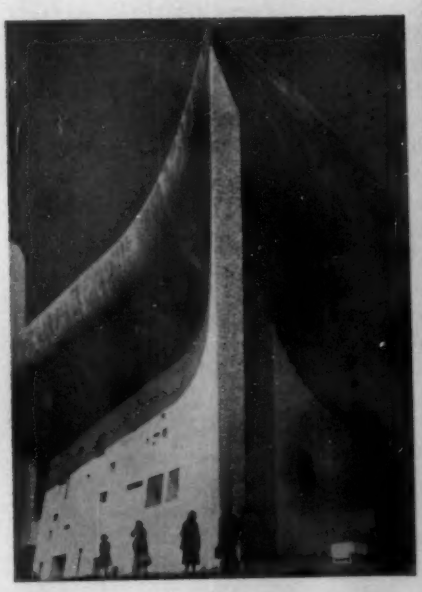
How impossible it is, then, to talk of Ronchamp in black-and-white terms. There are the semantics. There are the prejudices. I brought prejudice against the photograph which I think is the biggest potential lie-teller in architecture. I had seen fine photographs before I went to Ronchamp and had rejected them as fantasies. I came away from the reality confused, satisfied that the building did lack essential unity and that there was too much personal caprice, interesting or not, but also happier than I had been among the photographs. Now that I am back and have some new photographs, I look at them again and find the order that I missed when there, but miss the happiness. Which is the reality?

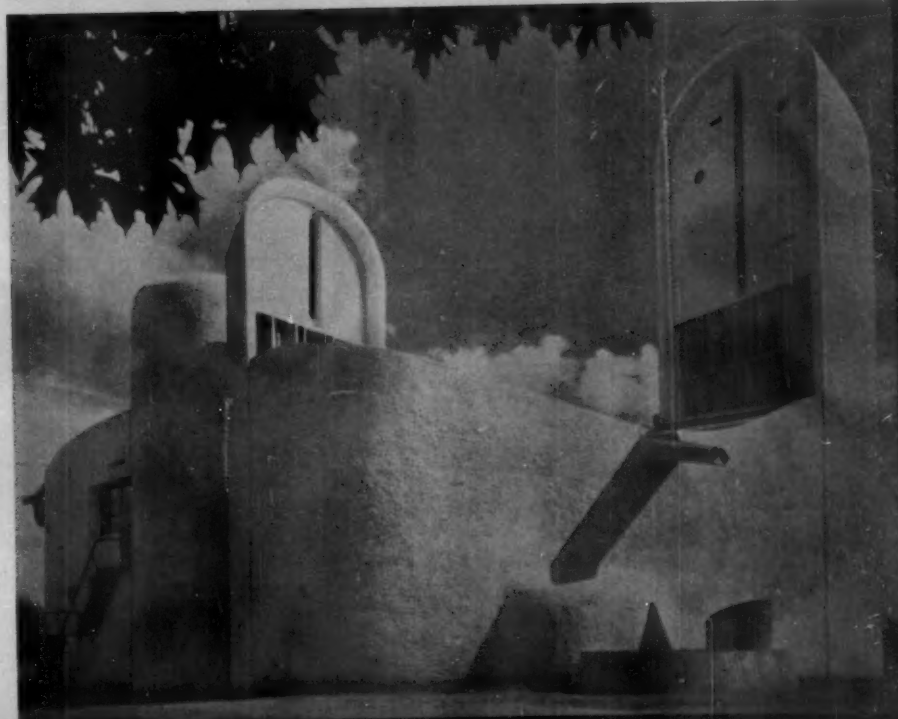
Of course the photographs show no people, and when we were there the place was full of people, not worshippers but tourists like us. They dragged their gritty shoes over the pavement in a monotonous contra-bass. They were always standing in front of everything; not many were worshipping. In Saulieu there were only a few worshippers and they were quiet and kneeling. We never saw Ronchamp that way. At Vézelay there were lots of tourists, but they were quiet and mostly organized, and the place was big enough to absorb them easily. But Ronchamp is not big enough. Do you judge it, then, by the repose of the photographs when no people are there? Might it be that way in mid-week? Was it our bad luck to come on a Sunday? Or were the people part of the glory of the edifice? A building for people ought to be able to stand the presence of people, but were these the right people?

The approach from the west toward the Vosges on National XIX is full of expectation. Suddenly you see it quite far away on the right, unexpectedly white. The mass might well be taken for that of a large and well-ordered farmstead, but that does not seem inappropriate. You see it for a while, but as you near the town it falls from view and as you round the hill it is so obscured that you are surprised to find on entering the town that the road up is at your left. All the way to the top the hill is in the way. As you drive up the dusty, somewhat rough, road, you pass people walking down; you debouch not on a parvis but on a sloping, grassy, rurally informal parking place. Then you walk straight up the road, pause to pay your hundred francs to a boy at the gate. All this time you can see only the top of the shrine because there is another building in the way. This turns out to be an unimportant concession also built by Le Corbusier. You must not be put off by this or the other concessions with their competing signs, advising you that each is the only one whose profits will positively go to the benefit of the shrine. You must not be put off by the accordion player or the beer drinkers. You must not be put off by the café beyond the west wall where you can lunch moderately and more usually have your beer or your wine or your aperitif and some family conversation. None of this is sacrilege. It is part of the ambiance of any Continental shrine of this sort. In this environment the shrine does not draw her skirts away from the normal human life around her.

There could have been a better approach. We should have walked up the hill in the company of the other pilgrims on one of the two annual days of pilgrimage and stood before the east wall in contemplation of the ancient icon of the Virgin. Given choristers, vested priests and a multitude before that wall, I have no doubt of the result. That is the primary purpose for which Notre Dame du Haut was designed; that is the first criterion by which to judge it. It comes off well.

The exterior is a cameraman's paradise, for every change of position proposes a quite different view. You feel no compulsion to go in but are rather drawn to circle around the edifice two or three times; you feel moved to stroke its sinuosities; you cannot but be enamored of its shadows and the amazing way the roof meets and hovers over or disappears behind the wall. You move around the building without realizing always that you have changed sides, for there is nothing of the separation of sides and ends that you sense when you observe first the chevet and then the abside and then, say, the west front of a Bourges. The movement is steady and you find it unnatural to think in terms of west walls or east walls. The whole thing swims in space and each step or two provides you with a different impression; the portholes, the wonderful roof, the free-standing column within its horseshoe sleeve at the east, the towers, the downspout, all the well-known features lead you from one to another, now dominant, now recessive. The forms cast evanescent shadows on each other, and when the sun is playing with the clouds, as it was this day, the effects are subtle and ever-changing. They also





Credits: photo right center by Rene Burri, Magnum

change rapidly as the sun moves down the horizon. At this level Ronchamp seems alsmost impeccable, or certainly would seem so as soon as surprise and shock had worn away. As a backdrop for biannual pilgrimages or as a piece of outdoor sculpture, religious or secular, Ronchamp is an overwhelming success.

The interior raises more questions. It must be remembered that it is not intended often to serve for ordinary masses or services; down in the village there is a very decent and old church to care for that. Still the circulation of this church is *very* strange. There is a "porte principale," but it offers no particular invitation to enter. There is another door opposite on the north side and that is where the bookseller sits, so this seems like a main entrance. Then there is a third door right alongside the altar and usually open to throw a blinding ray of light into your eyes. People go in and out of all these doors. Thus the pious sit in pews athwart the circulation and have no privacy. In more conventional churches visitors obtrude less on devotees.

We happened to go in by the north door. This brought us face to face with the great south wall and the overwhelming impressing of the magnificent piece of three-dimensional cubism, recalling to me more a reminiscence of a street scene in the cubist movie, *The Cabinet of Dr. Caligari*, or a wall in the Casbah than a reverent reference to Marie. At least it seemed a thing that would have been equally at home on a law court in the Punjab; the only difference was the message carried on the glass. This did not seem enough.

Had we entered by the intended door we might have had a better feeling, but later when we stood in that position I was again disturbed by the massive and coarse pulpit. Its coarseness is deliberately emphasized by the absence of the otherwise ubiquitous whitewash.

When you turn to the back, away from the altar, by standing near it, the space comes alive. Here you have a sensitive view of all the volume except that concealed in the little chapel under the tower. It is truly plastic space, marred only by inappropriate confessionals. The catenary roof makes a wonderful junction with the wall. Save for the intrusion of the pulpit, the view from the rear towards the altar is also impressive. Now the single curve of the roof offers a foil to the remembered reverse curve at the rear. Again the space as a whole is a plastic unity with no conventional direction lines to tell you that it is so. But the pulpit is an offense at the left, confessionals are an offense at the rear, the window of the Virgin is an offense at the front because it pours too much light through its little rectangular porthole. And it is so carelessly placed (even if located by a modulor) that its light impedes vision of the altar and destroys any pretension to what Tillich calls "holy emptiness." Finally, there is the charming and to me the most reverential detail of the interior, the little altar at the foot of the tower which you can see only after you have moved to the rear.

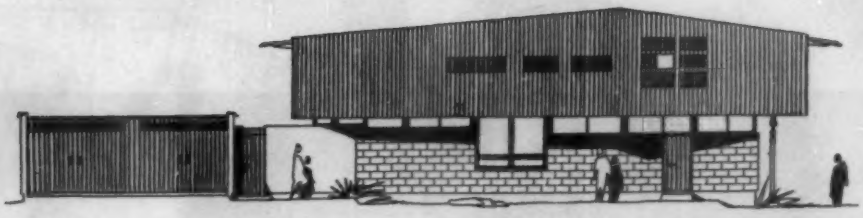
I have deliberately fragmented this description of the interior as I have not fragmented that of the exterior to emphasize that this may be precisely the greatest defect of Notre Dame du Haut. You end with a feeling that there was a unity, but you can never quite remember what the unity was. You are driven back, as you sometimes are with a fine Baroque building, upon the recollection of brilliant but quite contrasting and separate details.

Ronchamp boasts of its spontaneity. I suspect this is at once its strength and its weakness. If Le Corbusier had niggled over proportions and curves something would have gone out of the sculpture. But this "spontaneity" is also its weakness. I know of no truly great artist of the past who was ever careless about his details. To care about finish, now, seems in many quarters to be the sign of decadence. In this matter Le Corbusier, as an architect, is a major offender. He does not build well; he has no respect for the finest craft of either the machine or the hand. Perhaps he even chooses to exaggerate their ineptitudes. He would rather toss off a brilliant galaxy of speculative notions and go on to something else. To be able to do this is enough mark of genius. Perhaps we should not demand more. Ronchamp is just such a galaxy of suggestions. Its threat is that it encourages the unimaginative and the insensitive also to have their flings at innovation.

And in the end Ronchamp is confusing, too exciting, too theatrical. It does forge its way onto the list of ten, but where I am not quite sure. It is superior to most religious edifices of our day. It may point the way for careful men to find a new apotheosis of religious architecture. But it does not provide the apotheosis. Great poets are, like great men, simple. Great architects are, like great poets, simple. "Great poets mean what they say." Great buildings mean what they say, and they say it so you can hear it clearly very soon. This comes from an order which has finally emerged from the chaos of innovation. Ronchamp does not speak in quite so clear a voice. Vézelay does.

Whether this is because our best-known architects do not have the sincere and humble skill of the builders of Vézelay or whether something has gone out of the religion itself, I would not pretend to know. Whether it is because we underprize stability and overprize novelty I do not know. I suppose the artists must keep on trying to understand the religion, and the religion to use the artists.

It is pretty clear to me that I would find it simpler to worship at Vézelay. Yet I prefer the life of Ronchamp to what I imagine the life of Vézelay must have been. If anyone knows where that leaves an observer of the contemporary scene, it would be good to hear.



A Swedish Villa in a Forest Setting

Villa Tesdorpf
Skovde, Sweden

Ralph Erskine
Architect

Arne Larsson and
Tore Greger, Engineers

Byggnadsfirma Carl Tesdorpf
Contractors

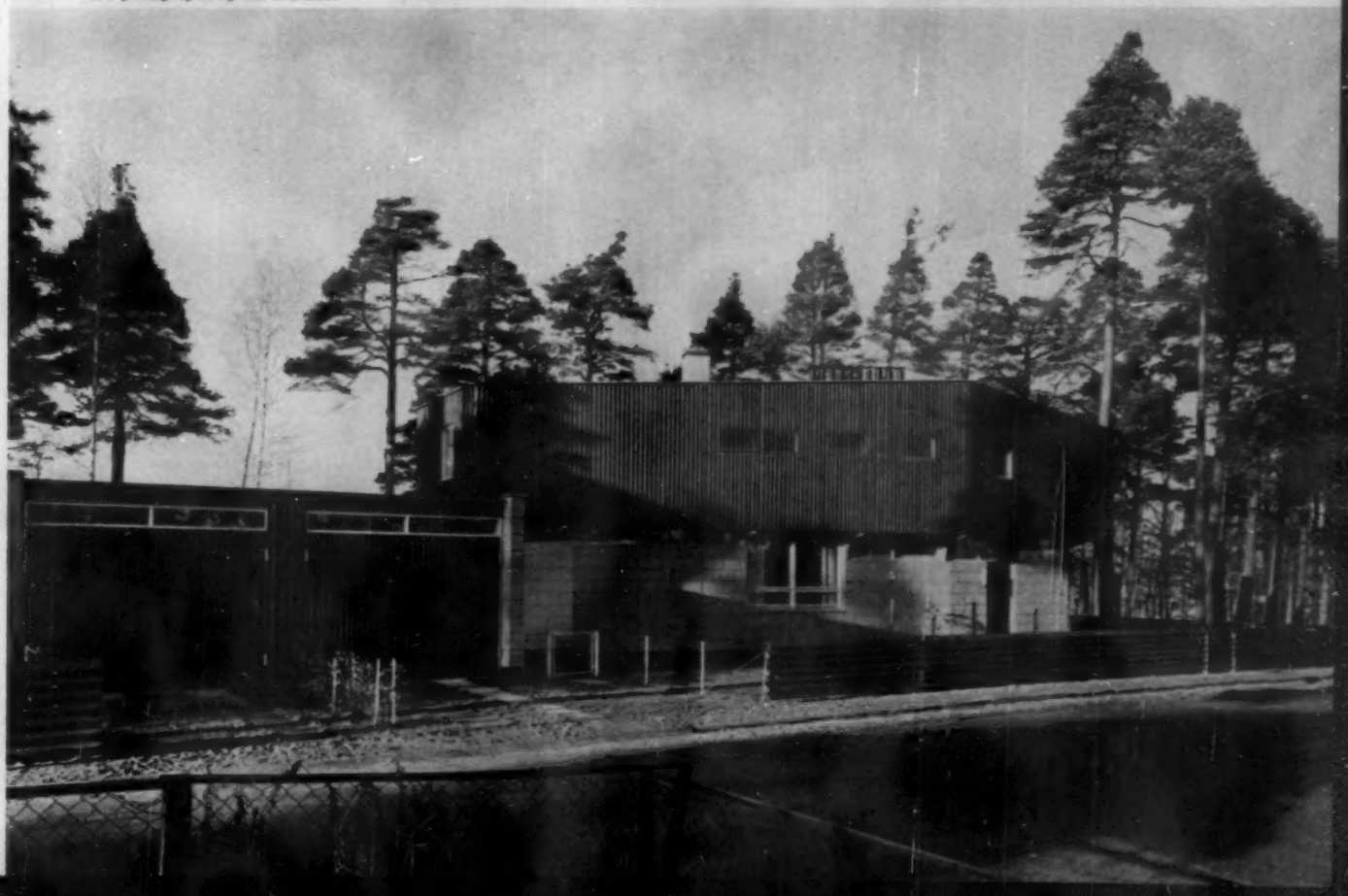
The new philosophy holds that a house in a forest that appears "rustic" or attempts to "harmonize" with the woods is ill-conceived. The design for this villa makes capital of contrasting man-made construction against nature, with the result that the house thereby gains in integrity, while a measure of life and interest is added both to villa and setting.

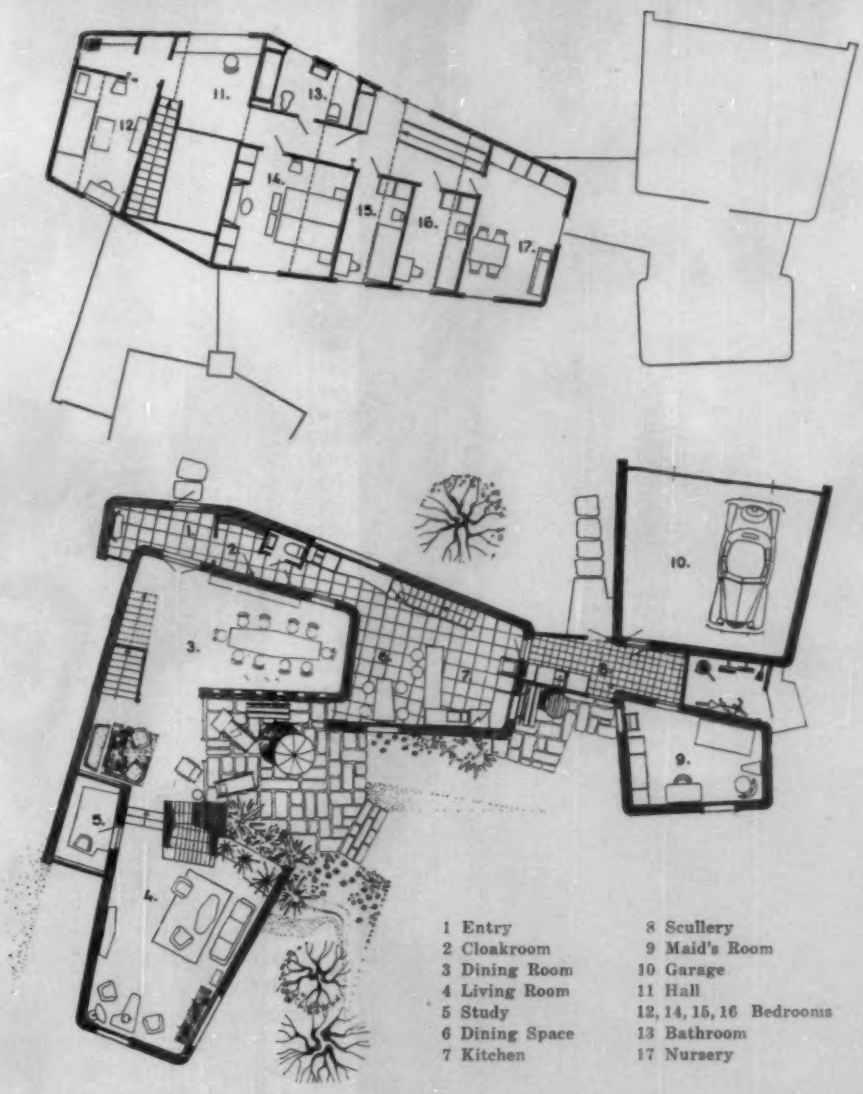
The machine-like regularity of the second-floor sheathe—composed of pine boards as they come from the saw—plays effectively against the random verticality of the trees; yet boards and trees—organically one—are peculiarly sympathetic in character. The concrete block ground-floor enclosure appropriately expresses the idea of foundation for the lighter, "floating" element above. In brief: an outstanding design particularly suitable in an environment that has a bold quality of its own.

Due to the relatively small plot, two stories were required to fill the needs of the owner-builder. The second floor is given over to sleeping; the ground floor to living, dining and service areas. Architect Erskine says, "The villa had to have good contact with the garden and provide protected outdoor space. All building is of course a matter of space enclosure. This scheme resolved itself with a system of continuous screen-walls, built into the free space of the site to enclose within and between

continued on page 181

All photographs by the architect





1 Entry
2 Cloakroom
3 Dining Room
4 Living Room
5 Study
6 Dining Space
7 Kitchen
8 Scullery
9 Maid's Room
10 Garage
11 Hall
12, 14, 15, 16 Bedrooms
13 Bathroom
17 Nursery

Swedish Villa

them different zones for the various activities of the family. While these screens give a feeling of enclosure, they also convey—at each point of termination—a sense of contact with the garden by way of large windows and glass doors; this emphasized by forming house and garden into a continuous composition in which the walls reach out into nature."

The plan above explains graphically how ground level spaces are grouped within four screen-walls: first, an inner one enclosing living, dining, hall spaces; the second about the kitchen-dining space, serving room, entry, cloakroom; then the two back-to-back forming the maid's room and garage—these last linked to the kitchen by a utility passage.

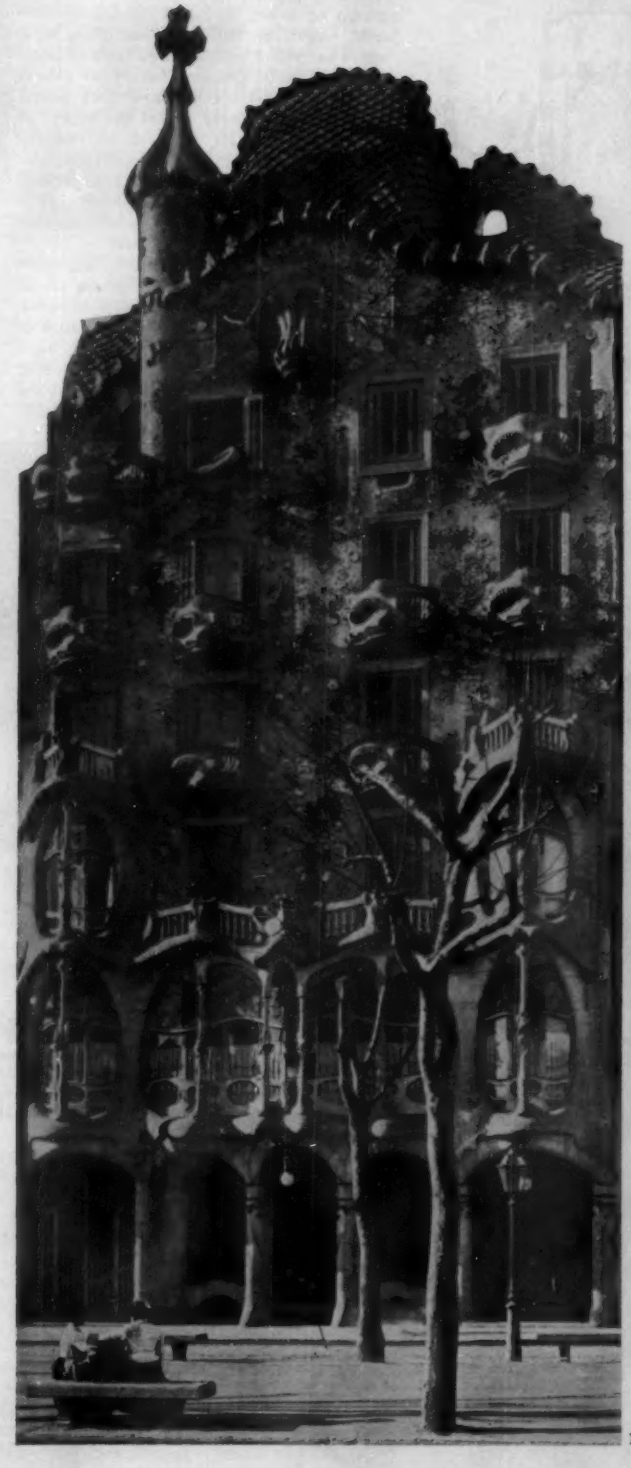
Swedish Villa

The ground floor walls are of lightweight concrete block, plastered inside and painted outside. Laminated wooden beams carry the upper bedroom floor, which is constructed entirely of wood, its exterior having the character of a continuous screen of sawn boards set vertically. Note at left the manner in which the floating second floor effect has been achieved by means of a continuous strip of glazing that clearly states—visually—the articulation of the two elements; upper and lower floors. The boarding pattern is interrupted on the north by perforations serving to light halls and baths; on the south by bedroom windows. Walls and ceilings of the second floor are pine-board paneled, lightly stained except in the bathroom, where they are painted. The wall boards are planed smooth, while those for the ceilings are left as they come from the saw.

On the ground floor, the plaster walls are painted in white and shades of gray; the ceilings are made of sawn pine boards lightly stained; the floors in principal areas are of selected native pine. The staircase is supported on pine stringers and has treads and handrails of teakwood.

THE RANGE OF GAUDI

by Henry-Russell Hitchcock



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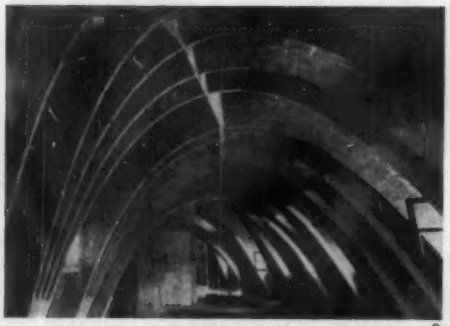
Compared to the ease with which the essential characteristics of the architecture of Wright—at least in the period of his Prairie Houses—can be epitomized, or that of Le Corbusier in the 1920's, the variousness of Gaudí's buildings is bewildering. His most conspicuous extant work, the transept façade of the church of the Sagrada Familia (page 188), is by no means typical of his achievement. Erected as a portion of a scheme originally quite archaeologically Gothic, to a limited extent it does illustrate, from top to bottom, the development of his style from the early 1890's to his death in 1926. But many conspicuous aspects of this façade are not to be found at all—or very rarely—in his completed work of those years: the profusion of sculpture, including much figure work; the basically Gothic ordonnance of the portals; the execution throughout in cut stone. What is perhaps his most idiosyncratic treatment of surfaces, moreover, irregular mosaic work of various different materials, is hardly found here at all except on the finials (fig. 20), which were executed after his death; hence they quite lack his special authority as a sort of abstract painter in architectural materials. Although this fragment of a vast project gives evidence of a highly personal approach to structure, particularly in the openwork masonry of the tremendous spires, the virtuosity and versatility of his techniques as a constructor are only suggested. Most notably, his special approach to the isolated support or "column" is hardly to be apprehended at the Sagrada Familia, in the executed portions.

The Casa Battlo (at left) of 1905-1907, although it was not a new building but only the remodeling of an existing apartment house, actually displays more aspects of his virtuosity than does the transept façade of the Sagrada Familia. By an over-all mosaic of pieces of broken colored glass, interspersed here and there with mottled disks of glazed ceramic, the whole wall-surface, flat because inherited from the existing edifice, is turned into a sort of gigantic "action-painting." In the lower two stories, at the roof crest, and in the ironwork of the balconies, the plastic interest, absent from the rest of the façade, is supplied in profusion. But there is nothing that can be called sculpture, as on the church; rather the architectural elements themselves are executed in various materials, from the chiselled stone of the ground-story piers to the scaled tiling of the roof crest, in an exaggeratedly plastic manner. There are, however, no major structural problems here; and the isolated supports, particularly in the second story (fig. 11), are at least as much ornamental as constructional.

The following pages bring together under four headings: Structure, Supports, Masonry, and Tiled Surfaces, a few examples only of Gaudí's variousness. The illustrative material has been selected from that brought together by the Museum of Modern Art for its Gaudí Exhibition and is used here thanks to the generous cooperation of the Museum's Department of Architecture. Further acknowledgment should be made also to the Amigos de Gaudí, the Barcelona organization which prepared the exhibition held there of Gaudí in the summer of 1956 and which supplied to the Museum a very large part of their Gaudí material.

STRUCTURE



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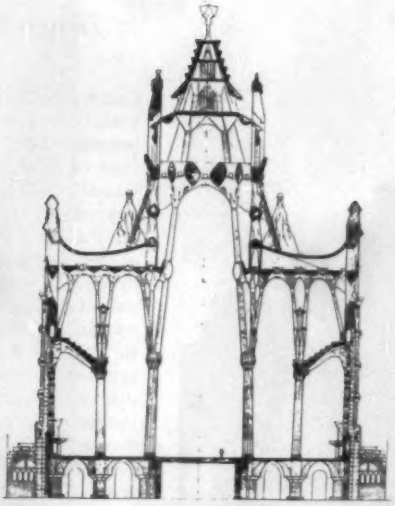

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The best known of Gaudí's structural schemes, perhaps, is one that he was never able to carry to execution. The final project for the vaulting of the Sagrada Familia, worked out just before his death in 1926, would carry to fantastic extremes of articulation the skeletonization found in Late Medieval masonry construction (fig. 3). In the statical studies on which this was based Gaudí made use of three-dimensional diagrams of wire loops loaded with weights (fig. 6), analogous upside-down to the forces with which his structure would have to cope. His extreme sort of ribbed masonry construction appears in executed form at the church he began at Santa Coloma de Cervelló, begun in 1898, and the Casa Milá, begun in 1905. The interior of the completed crypt at Santa Coloma—the upper church was never built—is so dark that photographs do not clearly reveal the basket of ribs and the nearly flat web of vaulting that the ribs support. The same system, however, can be apprehended, if not perhaps completely understood, in the porch (figs. 7 and 17). Figure 2 shows similar construction in the attic of the Casa Milá.

A quite different approach to structure can be seen in two instances where Gaudí worked not with masonry but with concrete. In the Ippostilo below the large terrace of the Park Güell (1900-14) the stylized Doric columns are built up of precast blocks, still therefore in the masonry tradition. But the reinforced slab of the ceiling (fig. 5), lightened by circular concavities like shallow domes, closely resembles the ceiling of Frank Lloyd Wright's carport at the Johnson Wax Building in Racine.

Perhaps the most fascinating piece of Gaudian concrete construction in the light of later developments is the corrugated roof of the tiny parochial school built beside the Sagrada Familia in 1909 (fig. 4). Here the scallops of the plan are repeated in the roof but the two sides are, as it were, syncopated, so that the convexities of one side fade gradually into the concavities of the other.

Other examples of structural invention or modulation are less readily illustrated. For example, by using an interior skeleton of isolated piers at the Casa Milá, not of the regular American grid order but as varied in disposition as the curves of which the facades and the court walls of the apartment house are made up, he was able to introduce quite different apartment plans in successive floors.

On the next two pages the galleries at the Park Güell illustrated in Figures 8 and 9 give examples of the slanted supports, half pier and half buttress, that he frequently employed (see also fig. 7). The statical diagram in Figure 9 makes plain that this is not wilful naturalism in imitation of tree-trunks or rock-forms but the result of thorough analysis of the forces acting upon galleries cut out of a hill-slope and terraced above.

SUPPORTS

After the conventional Gothic piers in the crypt of the Sagrada Familia, executed in the 1880's largely from the designs of the original architect Francisco de Paulo del Villar, almost the only example of traditional columnar forms in Gaudí's work is provided by the Doric columns of the Ippostilo (fig. 5).

For all their somewhat Moorish air, the most refined of his supports, the marble colonnettes in the Palau Güell of 1885-88 (fig. 10), are pure cylinders whose capitals are pure cones interpenetrating the base of the delicate arches—already, it will be noted, parabolic, not round or pointed—that rise above them. At the furthest extreme from this elegance, which is not so much "palatial" as in the spirit of twentieth-century industrial design, are the stone piers used inside and out on the crypt at Santa Coloma (figs. 7 and 17). Monoliths crudely hacked to shape, these are extreme examples of the freehand quality so characteristic of Gaudí. For all their crudity they are marvellously expressive of the work they are called on to do.

As ornamental and as finished in execution as the colonnettes in the Palau Güell are those in the second story of the façade of the Casa Batlló. Here a relationship to the Art Nouveau of Northern Europe might be suspected; but for the linear plant-forms of Horta's and Guimard's ironwork, Gaudí has substituted a bony member which is completely three-dimensional.

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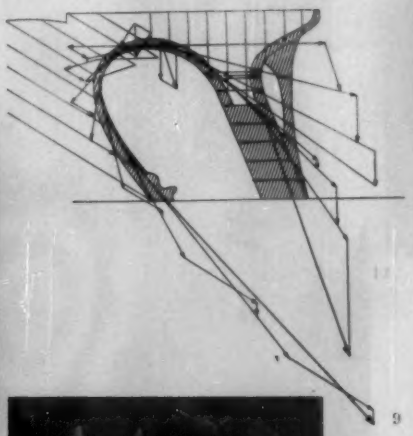

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The finest Gaudian supports are less decorative and more directly expressive of structural purpose. The slanting piers of the galleries at the Park Güell (figs. 8 and 9) have already been referred to as examples of Gaudian structure. Although these are not imitations of nature they do possess in their rough twisted surface of rubble, which spread with no break into the vaults above, something of the organic feeling of tree-trunks although nothing of the attenuation characteristic of Art Nouveau forms modeled from flower-stems. The close interrelationship in materials and forms between supports and what is supported is found also at the base of the Casa Batlló (page 183) and, at its best perhaps, at the Casa Milá (figs. 12 and 16). The local nickname of this apartment house, La Pedrera (The Quarry), well expresses the effect which these piers and the surfaces of the balconies above them present of natural rock-formations eroded by time and water, although they are made actually of cut stone laid up in broad courses.

Besides the monolithic stone shafts, there are also piers that are slanted like those of the Park Güell galleries but built up of brick and even of slag (figs. 7 and 17).

MASONRY

With the exception of his especially characteristic use of tile mosaic, most of Gaudí's buildings have exposed masonry surfaces and a good part of the range of the materials and treatments that he exploited are illustrated in the supports shown on the previous page. The additional illustrations on this page chiefly show more extensive use of similar materials. Again and again he employed a rough brownish rubble, not laid up in courses but forming a sort of irregular surface mosaic. In his earliest work of consequence, the Casa Vicens of 1878 (fig. 13), the rubble walls were varied and presumably strengthened by raised bands of polychrome tile. More appropriately in the Teresian College of 1889-94 the rubble walls were paneled with raised bands of brickwork. Later, at the Park Güell (figs. 8, 9 and 18) there is no intermixture of other materials in the rubble walling, although in the gate-lodges of the park (fig. 18) the roofs are of tile mosaic and tile mosaic also forms the frames around the windows. On the lantern of the Palau Güell of 1885-88 (fig. 15) tiny lumps of rubble provide a sort of rough incrustation.

Gaudí also used cutstone in several different ways. Less conventional than the stonework of the Sagrada Familia, and without the sculptural exuberance of the portals there, is the quarry-faced ashlar laid up regularly in rather large oblong blocks at the Palau Güell (fig. 14). Solid and businesslike, with none of the slick elegance of the marble detailing used in the interior (fig. 10), this is associated with very plain smooth-cut trim for the windows and doors.

In a major late work the treatment of the ashlar is very different. The stone blocks of the Casa Milá (figs. 12 and 16) are all shaped as if by a sculptor's hand to continuous curved forms, and the hammered surfaces, suggesting natural erosion as has been noted already, minimize the individuality of the separate blocks.

The most extraordinary sort of Gaudian masonry is that of the crypt at Santa Coloma (fig. 17). There the walls seem to have been heaped up, rather than laid, out of the most irregular of discarded klinker bricks combined with lumps of blackish slag.

Increasingly as his career went on Gaudí seems to have sought, like so many mid-twentieth century painters—or for that matter Monet in the same early decades of the century—to make every inch of his surface alive. His approach to materials is consistently that of the freehand craftsman who selects each piece of material by eye, composes what he has selected by eye, and finishes the surface with simple hand tools, rather than the conventional architectural approach to materials as a mechanical realization of effects predetermined in drawing.

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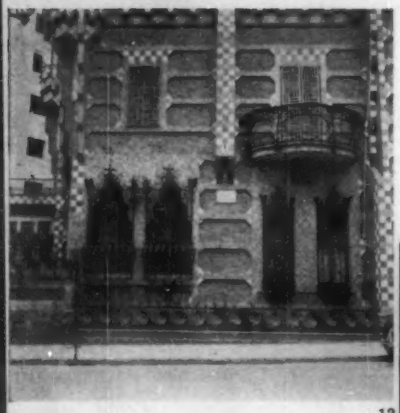

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TILED SURFACES

The use of *azulejos*, glazed tiles, for exterior as well as interior wall finish is a very old tradition in the Iberian peninsula, lately revived with considerable success in Brazil and Spanish America. Peculiar to Gaudí is the use of this treatment on elaborately curved surfaces, the tiles being generally broken into rather small and irregular fragments so that they may be accommodated to the curvature. Least unconventional is the tiling used in the court of the Casa Batlló (fig. 21). Specially formed tiles enframe the windows and some tiles with simple relief patterns are also used, but the larger areas are covered with plain square tiles set diagonally, most of them white but some of them in several shades of plain blue. Lapped roof-tiles of a fairly conventional type are used on the front surface of the cresting of the façade of the Casa Batlló (fig. 23) but very special bulbous and fluted shapes cap the ridge and crown the turret whose wall is covered with the same mosaic of broken colored glass as the main façade below (page 183). On the rear of this roof crest and in the other examples (figs. 20-23) one sees Gaudí's more usual treatment, with the tiles broken into small pieces and fitted to the undulating surfaces. In the case of the ventilator on the roof of the Casa Milá (fig. 22) the tile-fragments are all white in keeping with the almost completely monochrome treatment of the whole exterior, although these surfaces are naturally lighter and brighter than those of the grey stone walls below.

A much, much richer effect is obtained on

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the roofs of the gate-lodges at the Park Güell (fig. 18) by employing tiles of various brilliant colors, some even patterned, arranged in sharply defined shapes. The extreme of Gaudian fantasy is to be seen in the incrustation of the serpentine benches that surround the great terrace of the park above the Ippostilo (fig. 19). The ceramic material employed here is of the most varied origin, including kinds of domestic chinaware, and it is arranged in an almost endless succession of compositions resembling Dada or Surrealist *collages*. Small sections of this ultimate display of Gaudí's virtuosity, when seen isolated in color photographs, resemble the work of various artists of the early twentieth century—Klee, Ernst, Schwitters, etc. Here the necessity for the direct intervention of the architect in the execution of the work is especially evident. But to carry out so extensive a work Gaudí must in fact have trained others to assemble these mosaics with something approaching his own sensitivity to shape, to

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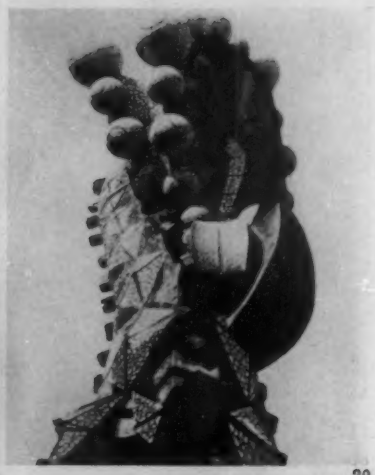

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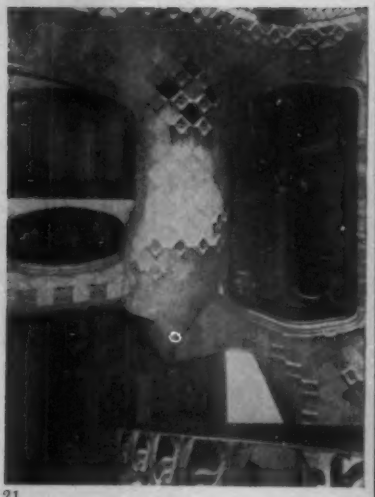

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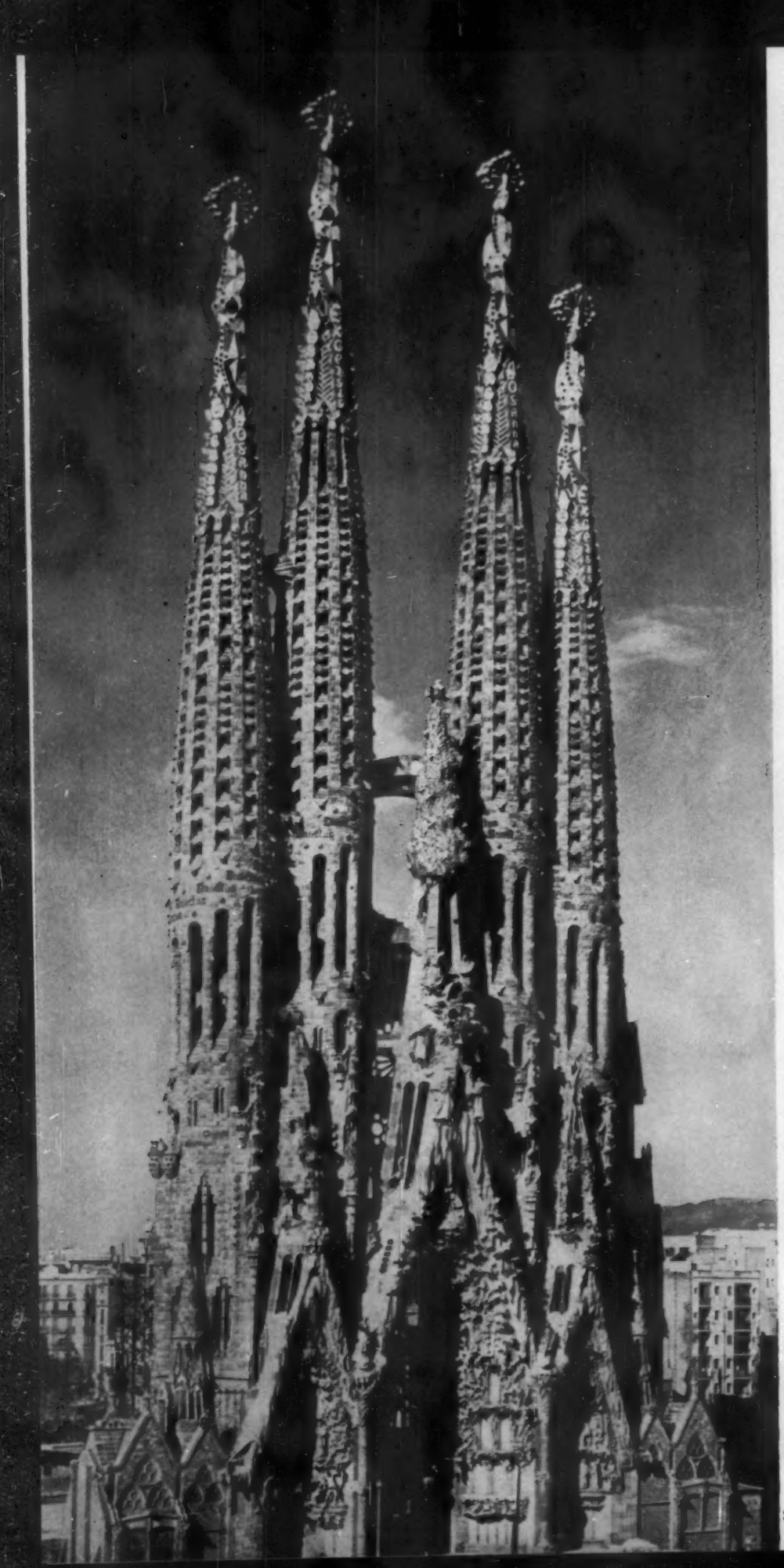


color, and even to the subtle connotations that the patterns on many of the fragments suggest.

How important was Gaudí's personal supervision, if not actual execution, of this sort of mosaic-work is suggested by the finial of one of the towers of the Sagrada Familia (fig. 20) which were carried to completion only after his death. The flat mechanical quality of the tiling here is unimportant since the finials are hundreds of feet up above the observer, but the lack of the sensitivity which controls even the plain white tiling of the Casa Milá ventilator is evident in the detail photograph.

Thus to separate the aspects of Gaudí's work and consider them in partial isolation is to belie the essential nature of his work to a serious degree. It was basic to Gaudí's architecture that it should always be very richly orchestrated. The parochial school (fig. 4) and an early warehouse at Mataro are almost the only simple buildings he ever produced. But so rich are the meals his works offer that it may make them more digestible to divide up those meals, so to say, into some of their main courses. We are so little accustomed to looking at twentieth century buildings in this way—although we are ready to do so for those of the great ages of the past—that a special effort has to be made. That special effort can, however, be rewarding; at least it leads away from the unfortunate critical tendency to reject or to swallow the work of this extraordinary architect *en bloc*.

PHOTOGRAPHS

1. Casa Batlló, 1905-07 *street elevation*
2. Casa Milá ("La Pedrera") 1905-07 *attic*
3. Sagrada Familia, 1903-26 *section*
4. Sagrada Familia Parochial School, 1909 *elevation*
5. Park Güell, 1900-14 Ippostilo
6. Sagrada Familia, 1903-26 *statical studies of vaulting*
7. Santa Coloma de Cervelló, 1898-1914 *porch of crypt*
8. 9. Park Güell, 1900-14 *colonnade*
10. Palau Güell, 1885-88 *colonnettes*
11. Casa Batlló, 1905-07 *window detail*
12. Casa Milá ("La Pedrera") 1905-07 *entrance*
13. Casa Vicens, 1878-80 *street elevation*
14. Palau Güell, 1885-88 *street elevation*
15. Palau Güell, 1885-88 *roof*
16. Casa Milá ("La Pedrera") 1905-07 *street elevation*
17. Santa Coloma de Cervelló, 1898-1914 *entrance to crypt*
18. Park Güell, 1900-14 *roofs of gate lodges*
19. Park Güell, 1900-14 *serpentine benches*
20. Sagrada Familia, 1903-26 *finial of tower*
21. Casa Batlló, 1905-07 *court detail*
22. Casa Milá ("La Pedrera") 1905-07 *ventilator on roof*
23. Casa Batlló, 1905-07 *roof detail*
24. Sagrada Familia, 1903-26 *transept of the nativity*

PHOTOGRAPH CREDITS

MAS, Barcelona, 1-4, 6, 7, 10-12, 14-17, 21, 23; F. Catala Roca, Barcelona, 19; Zerkowitz, Barcelona, 20, 24; Leslie Gill, New York, 13; Herbert Brooks Walker, New York, 22.

Four Offices:

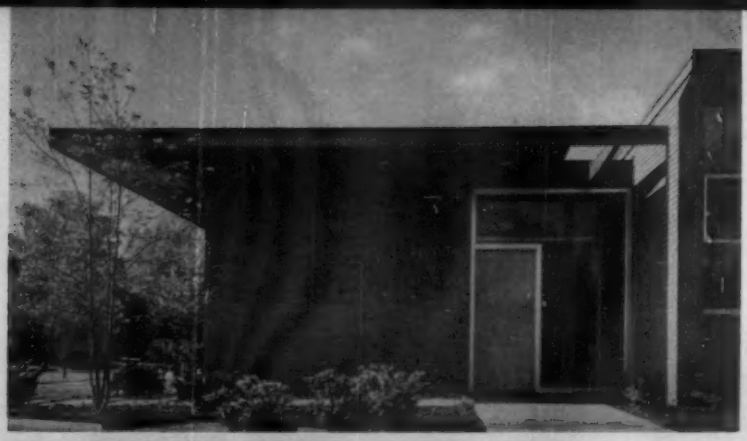
Horizontal Separation Of Occupancy

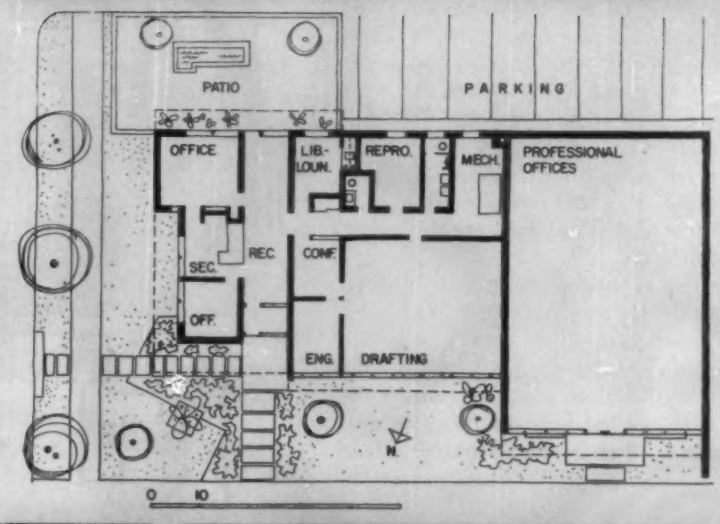
Offices of Louis G. Redstone, Architect and Allan G. Agree, Associate Architect, Detroit, Mich. Milton Baron and Hrand Hampikian, Landscape Architects.

In this horizontal scheme, rental offices are shielded from the architect-owner's quarters by an extended wing wall, have separate entrances directly on the sidewalk, and share the joint off-street parking lot. The architect's office—with a walled graden—centers on a reception-exhibit gallery entered either from the street or from the rear.

The exterior is of face-brick, aluminum sash, and plate glass; the frame is wood; the floors generally asphalt tile except for carpeted offices; interior walls are of painted lightweight concrete block.

The inviting, brick wall enclosed patio-garden at the rear makes generous use of sculpture; a bronzed-steel gate by Julius Schmidt; a ceramic fountain piece by Samuel Cashwans; and ceramic bas-relief wall inserts by Walter Speck.





Lens-Art Photos

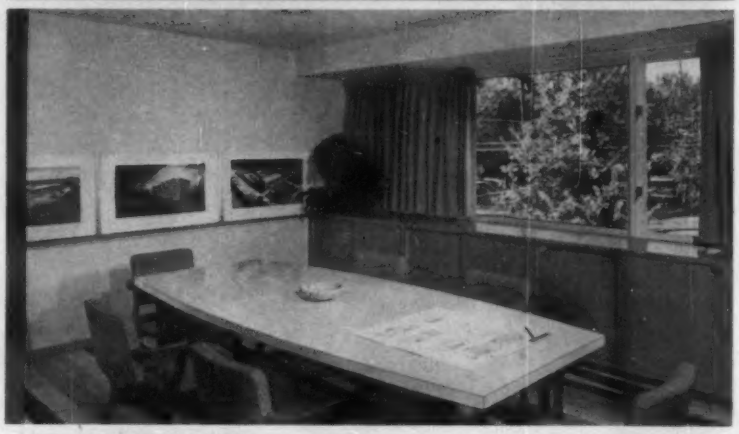
Four Offices:

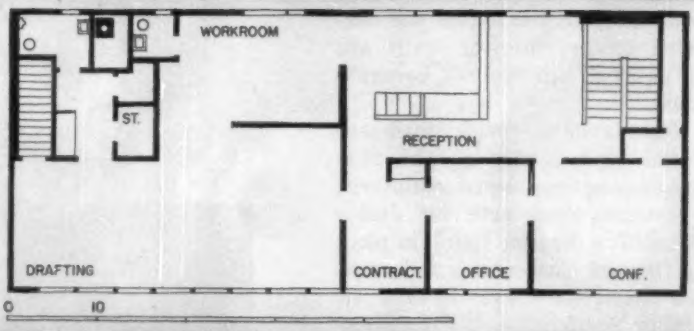
Vertical Separation Of Occupancy

Offices of Harold Sptiznagel & Associates, Sioux Falls, S. Dakota. Franz Lipp, Landscape Architect. Terra Cotta Sculpture, Margaret Schnaidt.

The requirements for this building were the same as for the preceding example—the provision of rental space plus architect's office. But here, the two occupancies were separated vertically, with the architect on the second floor. Rental offices at ground level use a portion of the basement for laboratories. All offices enjoy the amenity of an adjacent public park.

The second floor is sheathed with redwood stained gray; the lower portion is pink brick. The stock wood sash is all glazed with sealed double glass to reduce the load on the air-conditioning system. Bar-joists provide clear spans so partitions may be moved or removed as necessary. Ceilings are acoustical tile; floors are vinyl or rubber tile; interior walls and partitions are plaster, finished either by painting or by vinyl covering.





Warren Reynolds

Three photos by Hedrich-Blessing

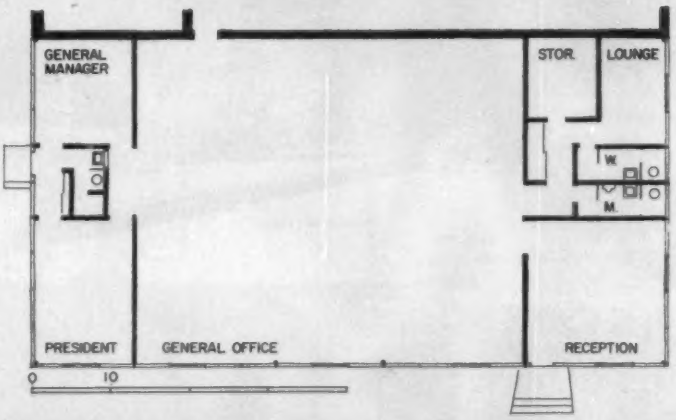
Four Offices:

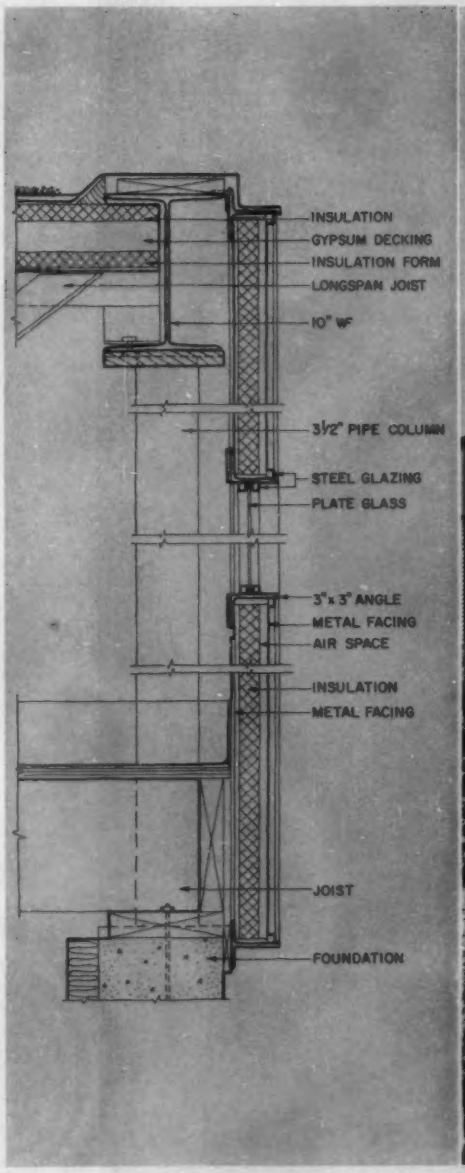
An Office Added To A Factory

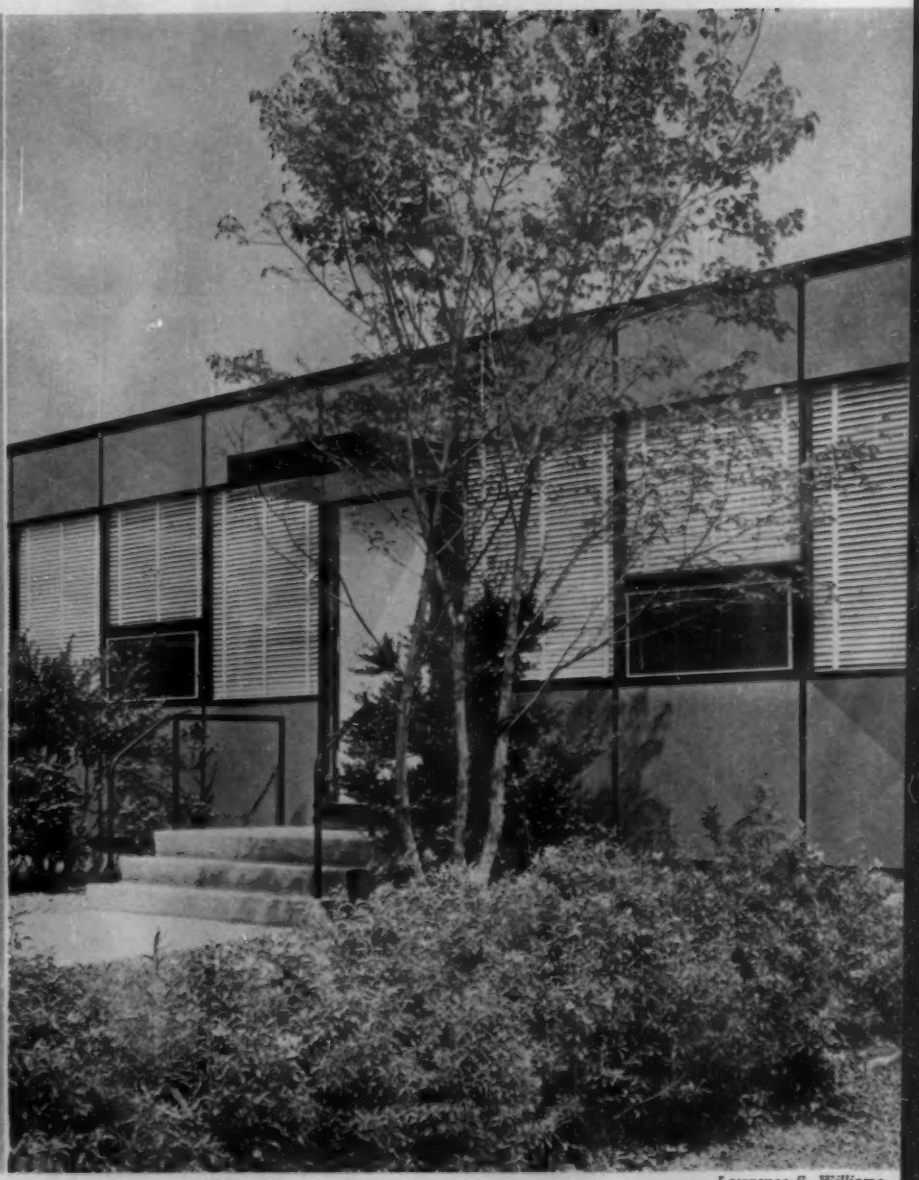
Offices for T. J. Cope, Inc., Collegeville, Pa. Jules Gregory, Architect. Robert E. Lamb & Son, Engineer & Contractor, Ethelbert E. Furlong, Landscape Architect

This smartly styled office structure was built against the blank block wall of an existing factory to provide the 3,200 sq. ft of space required by the owner; a manufacturer of electrical equipment. The plan is simple, providing executive offices, reception, services, and connection to an aisle in the factory through the large general office.

The building is placed over a crawl space to furnish flexibility of electrical, telephone, and air-conditioning facilities. The space is spanned by open-web joists which are supported on light steel beams and columns. The steel curtain-wall panels were fabricated in regular duct forming equipment by a heating contractor, then finished in an automobile paint shop. The 1½ in. thick sandwich panels contain glass insulation plus an air space to prevent the transmission of condensation.







Lawrence S. Williams

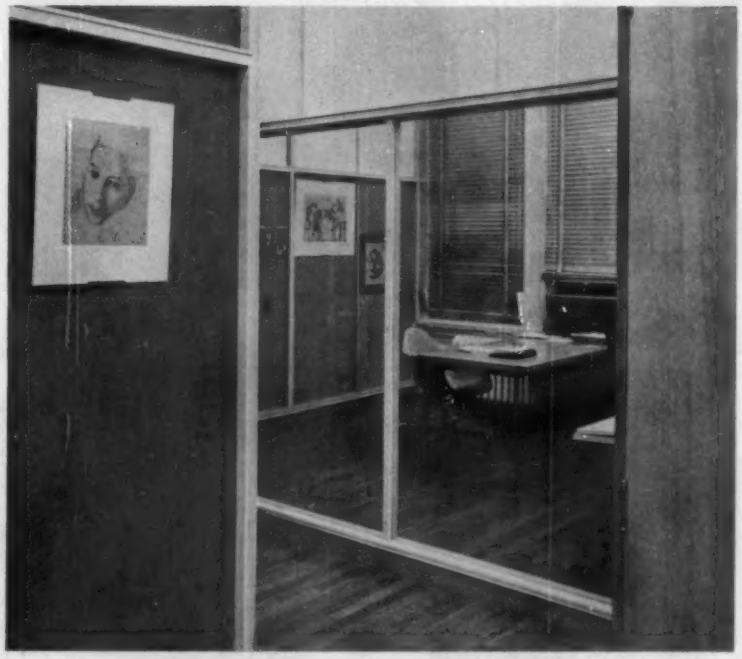
Four Offices:

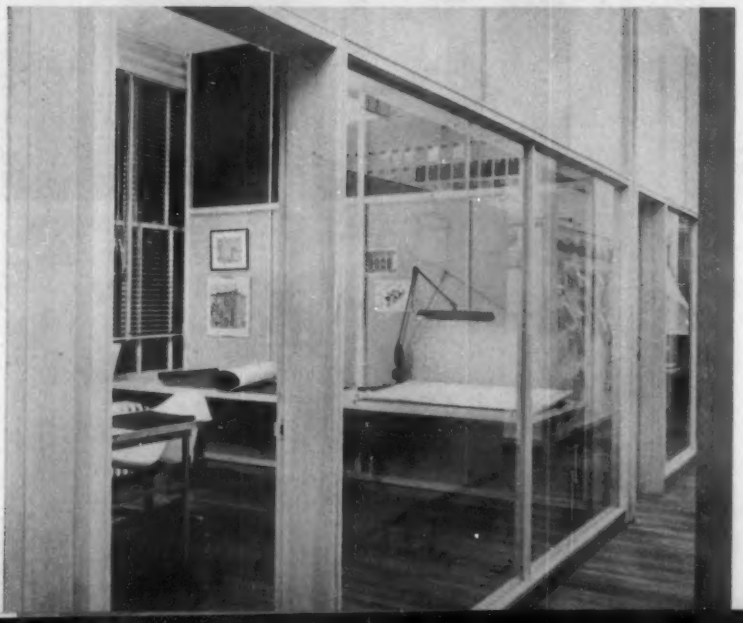
Remodeled Floor In Old Building

An office building floor in Atlanta, Ga., redesigned by Toombs, Amisano & Wells, Architects, for their own occupancy.

This floor in an old mill-construction office building in downtown Atlanta was remodeled to provide three principal areas: the drafting room (for 18); the office-conference group; and a central service area for secretaries, files, supplies, drawings, samples, etc. New wood studs are faced with insulation board, colored burlap, pegboard, and gypsum board. A 6 ft 6 in. line carries throughout as a change of materials point.

Photos by Bob McGinnis





MEDICAL BUILDINGS

BUILDING TYPES STUDY 256 ®

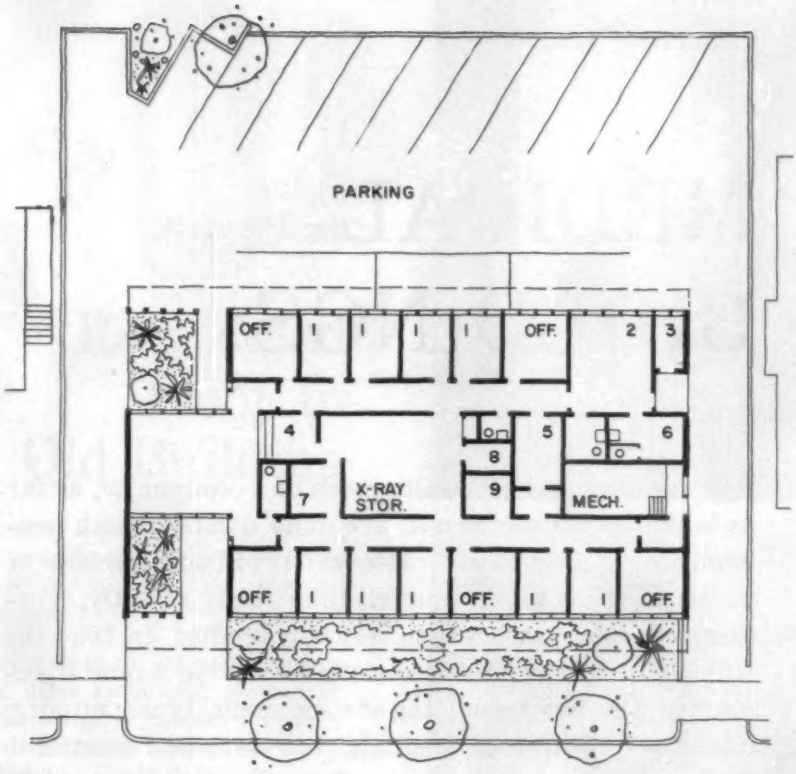
It is not news that the health needs of a community, as far as buildings are concerned, are quite diverse: most communities require a considerable variety of facilities, some of which might be highly special. Only fairly recently, however, have newer types been seriously studied. In 1954 the Hill-Burton program was revised to provide financial encouragement for the building of some special types: nursing homes, chronic disease hospitals, diagnostic and treatment facilities, and rehabilitation centers. Since then federal financial support has been given to projects in these types, total cost of which runs over $210,000,000. The need is great: in the two long-term categories the total need has been estimated at more than 500,000 beds.

Beyond mere volume, there has been significant advance in concept and design of such buildings. Architects have had new programs to interpret and develop. The architectural unit of the U.S. Public Health Service has carried out a considerable program of research in the requirements of these special types, and has developed a great volume of background information.

Private enterprise has also been active in developing facilities not included in government programs: especially small buildings for the group practice of medicine, or perhaps merely medical office buildings for individual practice, and health insurance offices and outpatient clinics.

This Building Types Study is essentially a report on what's new in these more specialized types of medical facilities. No two buildings are directly comparable, no two programs alike. But all were chosen as representing good solutions to more or less typical problems in the area of specialized medical buildings, facilities vitally necessary for our new health goal—keeping people out of hospitals.

—EMERSON GOBLE



1. Examination
2. Lounge
3. Storage
4. Reception
5. Laboratory
6. Nurses
7. Consultation
8. Fluor.
9. EKG.

Medical Clinic with Non-Medical Look

A nice bit of gospel is expressed in this little building for a group of doctors: a medical-oriented building doesn't have to express the more hygienic aspects of the association; it might emphasize more human ones. The program here called for "clinic space for five doctors on an interior lot in a residential district, with a maximum amount of off-street parking, and avoid a sterile, clinical appearance and create a building with an intimate and inviting atmosphere." The waiting room was developed to create that inviting note; the fireplace provides a center of interest and was designed with a minimum mass to give the receptionist a good view into the room. The building was placed on the front of the lot, to minimize the prominence of the parking facility.

The building is a wood frame structure on concrete perimeter foundation. There is a four-foot crawl space under the entire building to permit easy access to piping. Materials were selected to minimize medical suggestions: natural woods and gay colors wherever possible. Walls are vertical grain hemlock in interiors; exterior siding 1 by 4 cedar; cabinet work natural birch.

Hoyt Street Clinic
Portland, Ore.

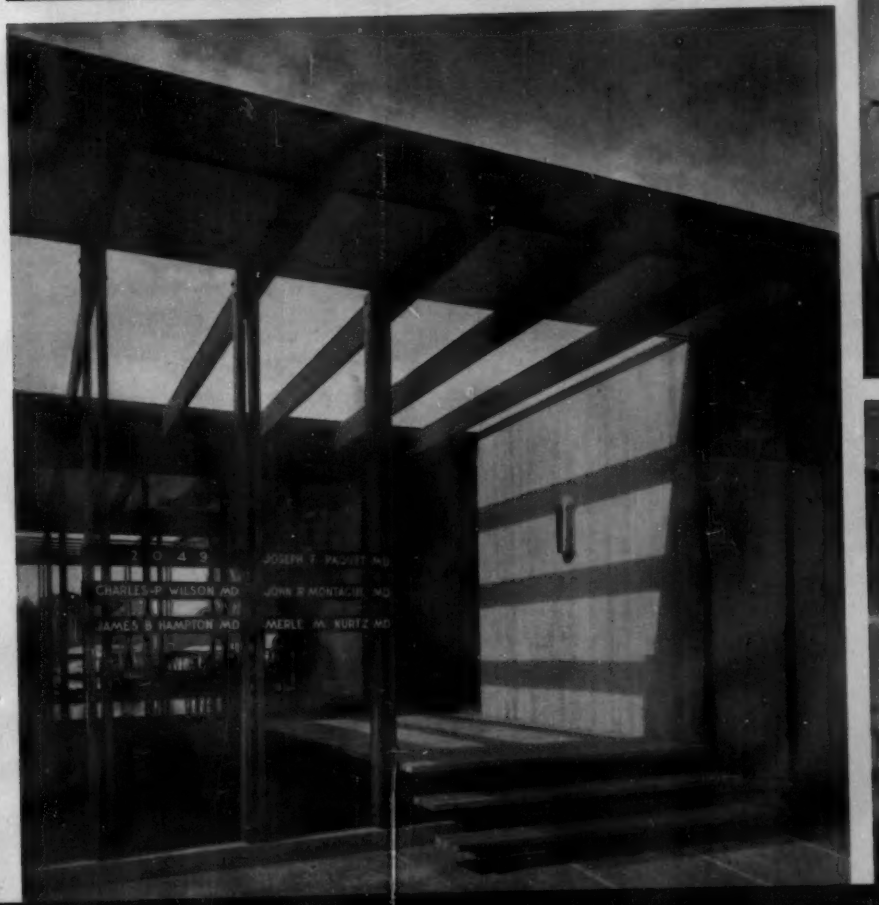
Architects:
Skidmore, Owings & Merrill

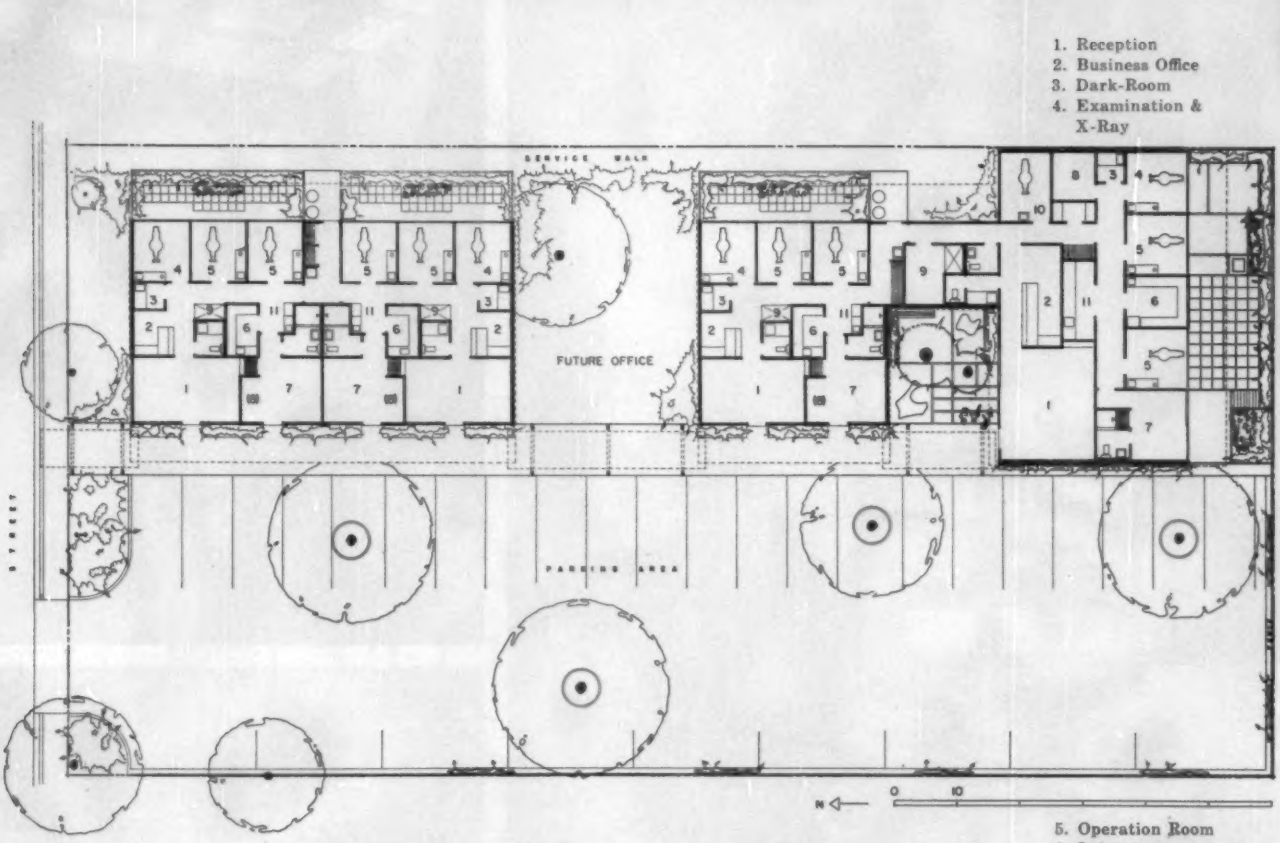
Mechanical Engineers:
J. Donald Kroeker

Electrical Engineers:
Grant Kelley & Associates

Landscape Architects:
Florence and Walter Clarke

Dearborn-Massar photos


2049
CHARLES P WILSON MD
JAMES B HAMPTON MD
MERLE M KURTZ MD



1. Reception
2. Business Office
3. Dark-Room
4. Examination & X-Ray
5. Operation Room
6. Laboratory
7. Private Office
8. Recovery
9. Mechanical Equipment
10. Hygienist
11. Sterilization

Prestige Values in a Dental Clinic

This is a dental clinic building with a considerable quantity of built-in appeal to patients as well as doctors. It has actually contributed to doctors' work by permitting them to do a larger volume of work with less effort, and patients have commented that the building takes some of the pain out of dental visits. Since some of the dentists are tenants, the result is particularly happy, and the prestige value noticeable. The building (actually two buildings) is disposed along the long side of a narrow deep lot, allowing the parking to be in "front" of each office. For privacy the "fronts" are relatively closed, the operating rooms having a full wall of glass overlooking a landscaped court. These rooms are aligned for great convenience, and are well separated from waiting rooms. The courts were designed to enchance the open feeling in what is really a tight plot. Buildings are connected with covered walks, the design of which was intended to produce sufficient interest to tie together visually the three façade elements of the buildings. Framing is light steel columns and beams, with steel bar joists. Exterior walls for the most part are non-load-bearing curtain walls; floor is concrete slab on grade, independent of roof framing; thickened edges support the walls. Interiors are a collaboration between the owner-dentist and the architect, in a generally Mayan note. The mural was designed and executed by this owner-architect team.

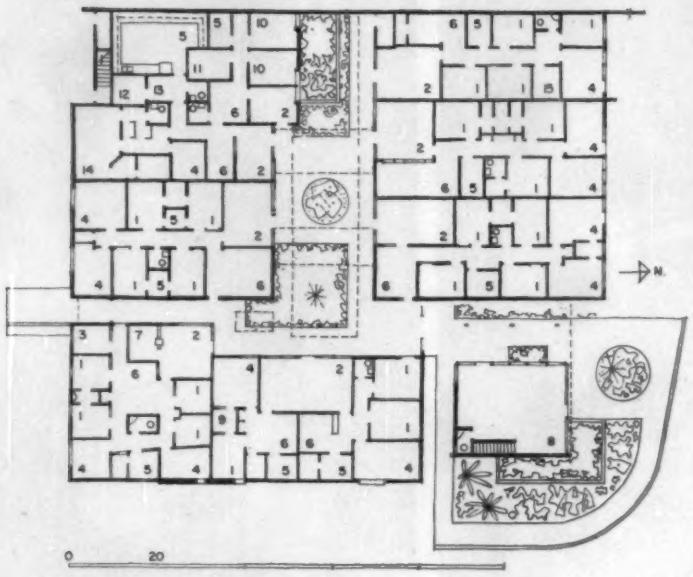
Dental Arts Building
Gainsville, Fla.

Owner:
Dr. Lewis J. Marchand

Architect:
David Reaves

Landscape Architect:
J. M. Crevasse, Jr.

Wm. Amick photos



1. Exam
2. Reception
3. Contagious
4. Consultation
5. Lab
6. Nurse
7. Child
8. Pharmacy
9. Fluor.
10. Operatory
11. Recovery
12. Basal
13. Blood Test
14. X-Ray
15. Audio

Large Clinic Screened from Traffic Noise

Medical concept for the clinic group is the now familiar one of several doctors banding together to provide a comprehensive medical service. Architecturally, the concept takes off from a desire to produce amenity values for a site on a noisy, heavy-traffic boulevard. The medical services include: internal medicine, gynecology, chest and general surgery, general practice, ear, nose and throat, psychiatry and dentistry, with supplementary services including laboratory, radiology, pharmacy. The site is on Ventura Boulevard, with heavy noisy traffic. For a visual and acoustic barrier the architect placed most of the building behind a concrete block screen wall, with an enclosed landscaped patio area. The wall and the courts are relied upon for the adornment of a very simple building. The separate office units are fairly large, the largest of 1100 sq ft. Some of the suites are combined, with two doctors sharing reception space. The doctors have a get-together lounge, actually a penthouse. The building is of stud and plaster construction, concrete slab on grade. Ceilings have acoustical tile and treatment room walls are soundproofed. Square foot cost was under $15.

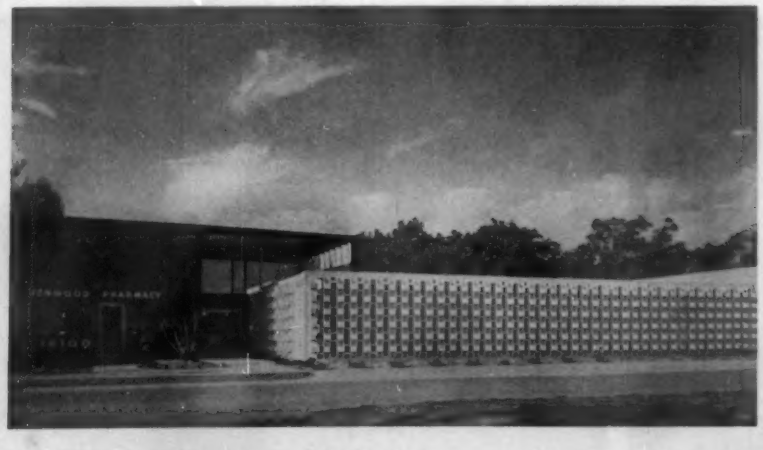
Woodley Medical Center
Los Angeles, Cal.

Architect:
Victor Gruen

Partner in Charge:
Ben Southland

Engineer:
Dan Alvy

Gordon Sommers photos



RMACY
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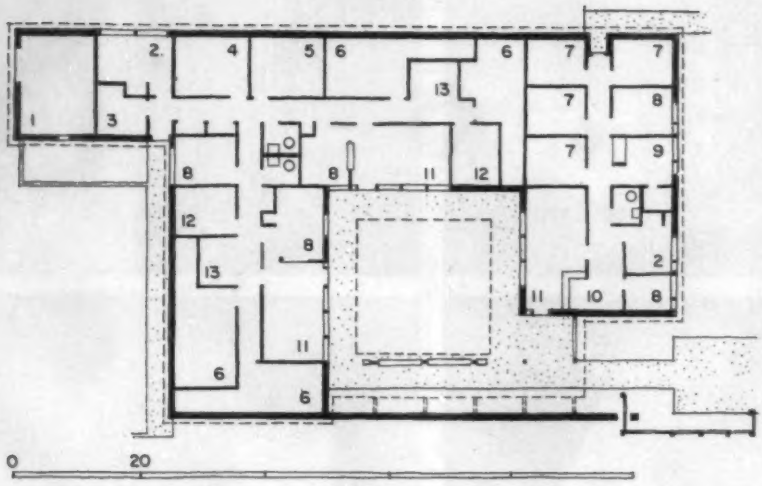


1. Boiler
2. Lounge
3. Storage
4. Surgery
5. Muscle
6. Refraction
7. Exam
8. Office
9. Lab.
10. Reception
11. Waiting
12. Treatment
13. Drop

Doctors' Collaboration for Investment

In this instance the collaboration of doctors was not so much in the realm of medicine as that of investment, for the doctors are two eye specialists and an obstetrician. They agreed, however, as to the type of building they wanted—something warm and pleasant. The site is within a block of the hospital but in an otherwise residential neighborhood. Since the district is old and a bit rundown, the architects proposed an enclosed, top lighted, garden courtyard which would serve as spacious common waiting room and would tend to create its own environment. The clients liked the courtyard but felt the need for more individual identity. Accordingly the courtyard as an element was retained to establish the desired atmosphere, but arranged to give nearly equal access and importance to each individual suite. Actually it serves, during pleasant weather, as an overflow waiting area. The building is done in essentially residential construction, with a considerable variety of interior furnishings.

McLymar Medical Building
Eugene, Ore.

Architects:
Wilmsen & Endicott

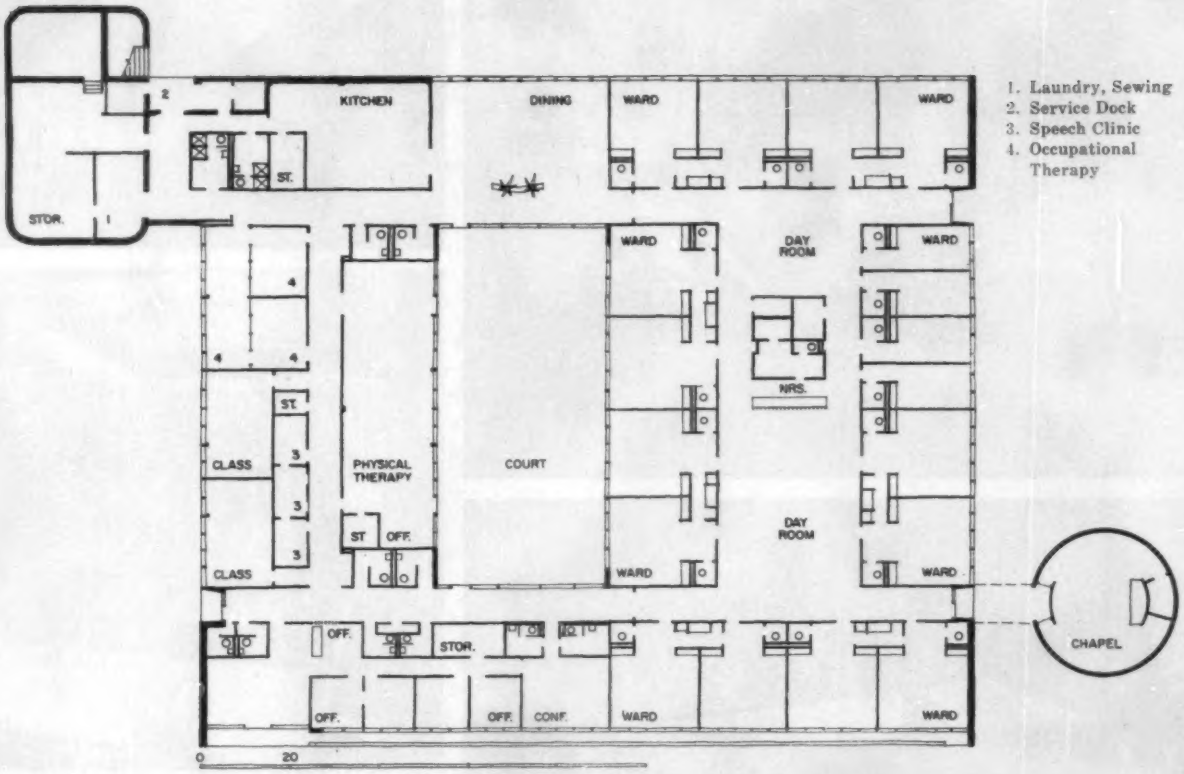
Associate Architect:
James C. Longwood

Mechanical Engineer:
Thomas C. Jamieson

Eiectrical Engineer:
Fritz Klawa

Landscape Engineer:
Lloyd Bond

Tom Burns Jr. photos



1. Laundry, Sewing
2. Service Dock
3. Speech Clinic
4. Occupational Therapy

Rehabilitation Hospital-School for Children

A specialty among medical facilities, this cerebral palsy hospital school represents the consolidation, in a new building of its own, of a development which began years ago. For several years the State Department of Education operated a school of about 40 beds capacity housed in rebuilt army surplus buildings. Necessity of removing the old building, to make way for the University Medical School and Teaching Hospital, forced a move, and the need to continue the work was obvious. Perhaps a more accurate description of the facility would be a "children's rehabilitation hospital school." Treatment of a case frequently extends over several years, and prognosis as to treatment time is difficult, though the present hospital is planned for treatment of other types of children's illnesses, such as polio or orthopedic cases. As the plan indicates, children are housed largely in wards, as children need company and profit from the example and stimulus provided by others. While there are some classrooms, the bulk of the space in the school portion is devoted to physical and occupational therapy.

Mississippi Hospital School for Cerebral Palsy
Jackson, Miss.

Architects and Engineers:
Biggs, Weir & Chandler

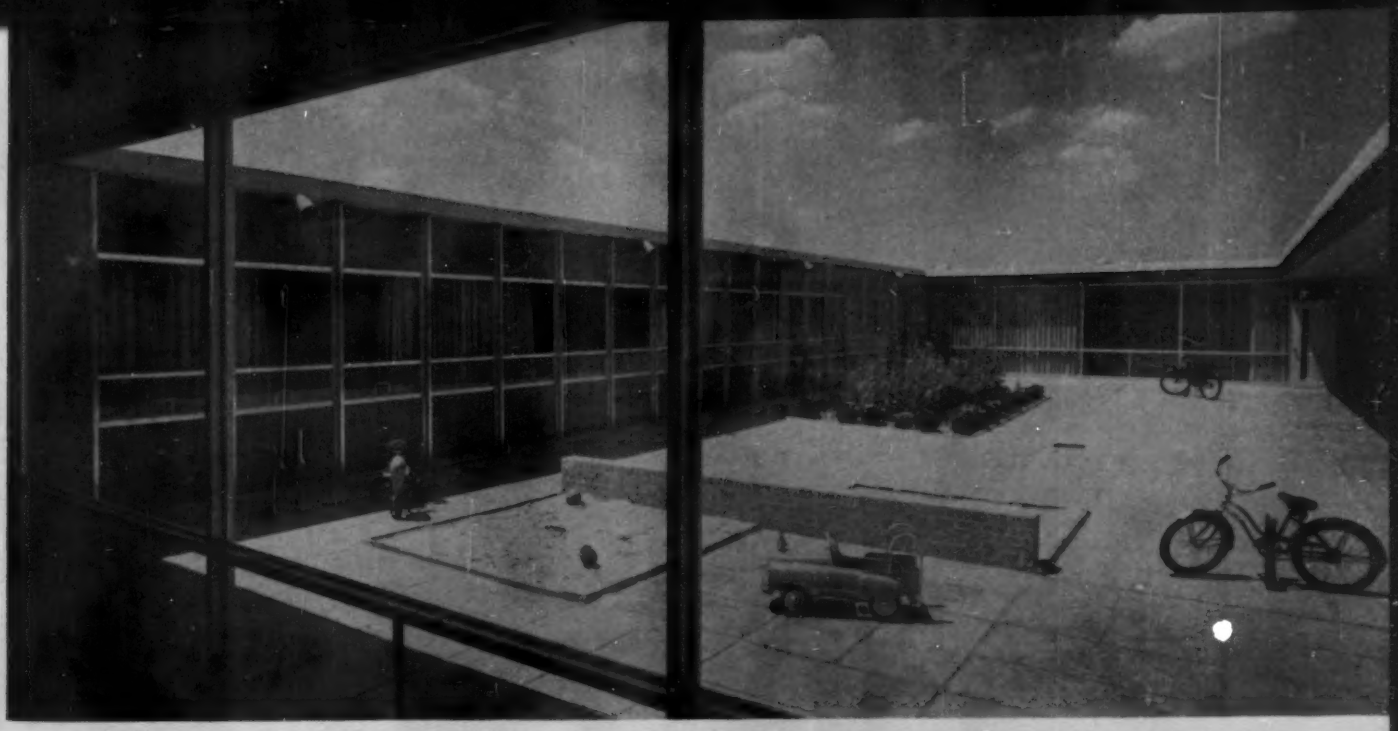
Structural Engineers:
Post and Witty

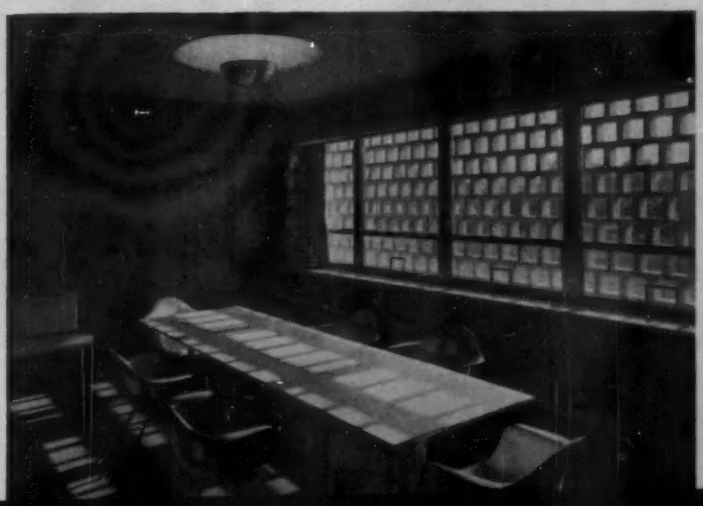
Frank Lotz Miller photos

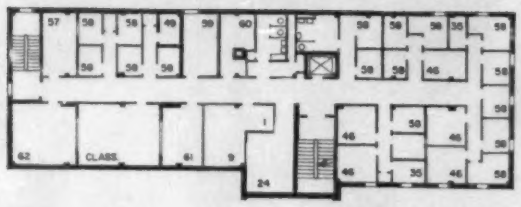
MISSISSIPPI HOSPITAL SCHOOL
FOR CEREBRAL PALSY

Rehabilitation Hospital-School

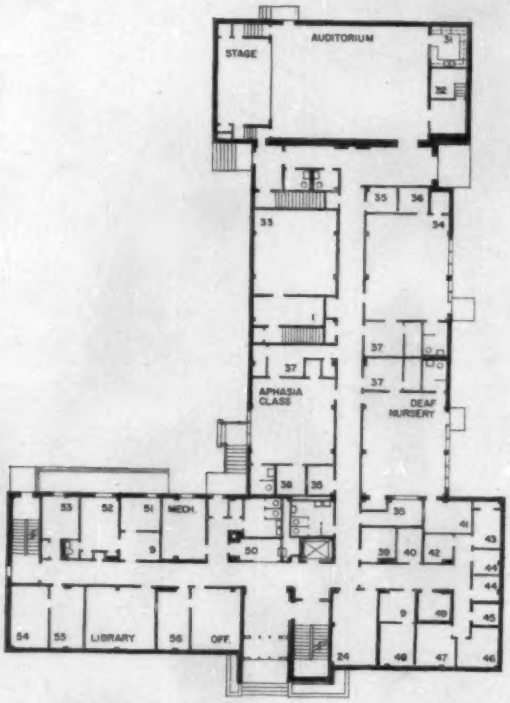
In both ward section and school and therapy rooms the building is kept scaled to children, though in general areas are quite large. The influence of the group is quite important, and children are encouraged to retrain their bodies by watching others. The scheme puts great stress on the enclosed courtyard for play of a therapeutic nature



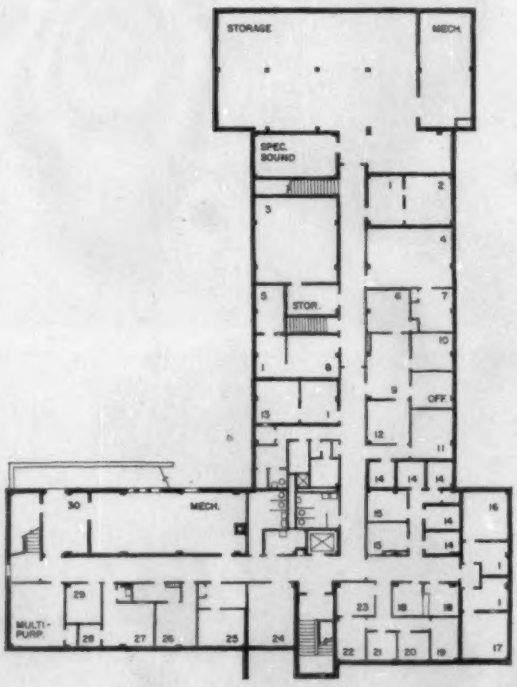




THIRD FLOOR PLAN



SECOND FLOOR PLAN



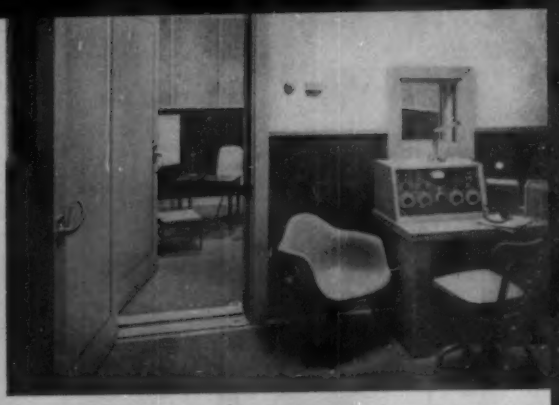
FIRST FLOOR PLAN

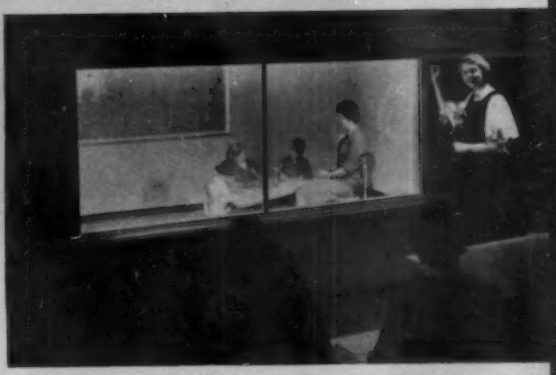
1. Control
2. P & C Research
3. Physical Acoust. Research
4. Elec. Equip. Test.
5. Test Chamber
6. Research Dir. Off.
7. Elect. Engr. Off.
8. Animal Surgery
9. Secretaries
10. Med. Director
11. Staff Seminar
12. Acoust. Super.
13. P.G. Skin Respon.
14. Audiom'c Test
15. Clinical Audio Logist
16. Psy'tic & Test
17. Audio Lab.
18. Interview
19. Pediat'c Exam.
20. Dental Operat.
21. Dental Lab.
22. Otol. Exam.
23. E.N.T. Dr's. Off.
24. Waiting
25. Psychologist
26. Psyco. Test.
27. Play Therapy
28. Game Storage
29. Clin. Voc. Rehab.
30. Repair
31. Kitchen
32. Projection
33. Upper Physical Acoustic Research
34. Cerebral Palsy Nursery
35. Observation
36. Recovery & Rest
37. Teacher
38. Special Therapy
39. Social Worker
40. Playroom
41. Audit. Training
42. Articulat. Test.
43. Artic. & Psychom.
44. Artic. Testing
45. Artic. & Audio. Test.
46. Clinician
47. Staffing
48. Speech Direct.
49. Recording
50. Reception
51. Business Manag.
52. Director
53. Dir. Stud. Train.
54. Grad. Stud. Work
55. Stud. Coat Room
56. Central Files
57. Group Therapy Speech
58. Stud. Therapy
59. Air Conditioning
60. Clinician Lounge
61. Demonstration
62. Group Therapy Hearing

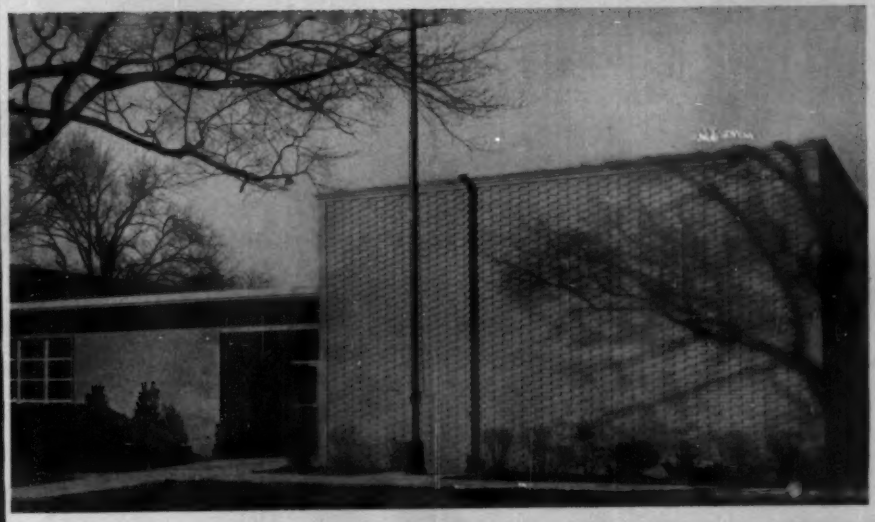
Hearing and Speech Center

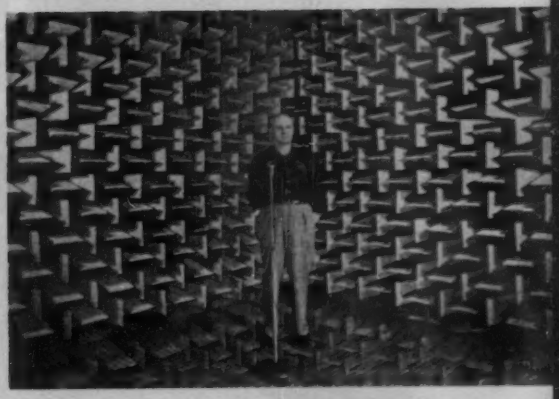
Bill Wilkerson Hearing and Speech Center, Nashville, Tenn. Owner: State of Tennessee. Architects: Brush, Hutchinson & Gwinn. Structural Engineers: Barge, Waggoner & Sumner. Consulting Structural Engineers: Severud-Elstad-Kreuger. Mechanical Engineers: Lindstrom, McLendon & Holbrook, Inc. Electrical Engineers: Bush-May & Associates. Acoustical Consultant: Robert W. Benson. Interior Designers: Ken White Associates. Sculptor: Julian Harris.

An interesting medical specialty, this building is hurriedly included in this group, though it is too early for adequate presentation. Functionally it is an agglomeration of highly interesting rooms bearing such titles as anechoic chamber, audiologic laboratory, sound room, speech research chamber, electronics shop, psychogalvanic skin response chamber, and so on, all devoted to speech and hearing problems. The building itself is interesting in its provisions for acoustical isolation. There are double masonry walls in some places to insulate against outside noises, sand-floated floor slabs, heavy partitions, and a great variety of measures to prevent transmission of sound through air conditioning ducts. Medically the building includes a great range of facilities for diagnostic and therapeutic work in the fields of audiology and speech pathology. Preschool training plays a large part in the work, in the hope that the deaf, cerebral palsied and aphasics can be prepared to enter the special education facilities in the public schools. When the building is completely equipped and in service a more adequate description will be carried in a future issue of the RECORD.









Thigpen photos

Comprehensive Rehabilitation Center

Rotary Foundation Clinic and Rehabilitation Center
Mobile, Ala.

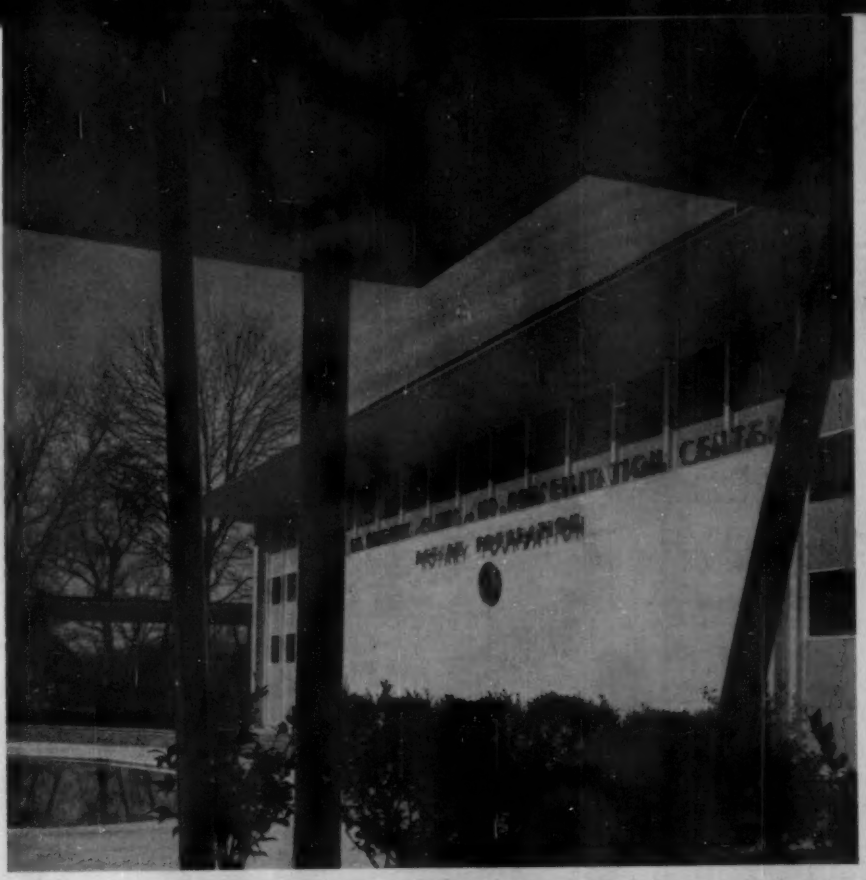
Architects:
Platt Roberts & Company

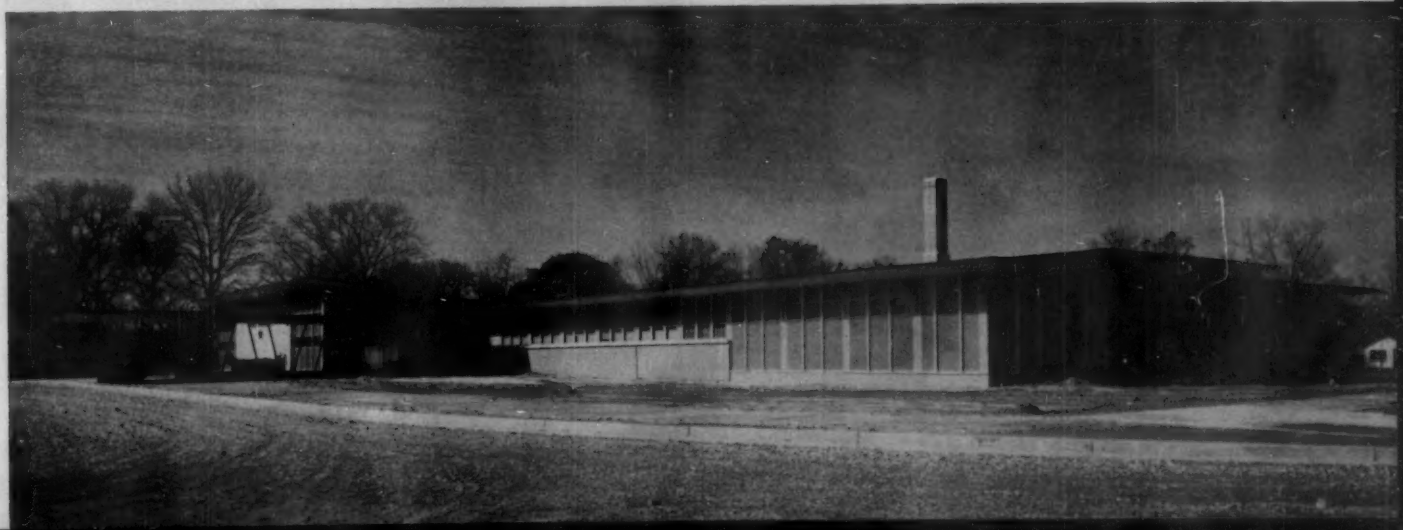
For some years now medical authorities have hoped for the establishment of rehabilitation centers; since the doctrine of effective rehabilitation has spread so widely, facilities are necessary for carrying on the work. Who was to sponsor and finance such facilities was not as obvious as the need. This is just such a facility as was envisioned; the sponsors in this case comprise a considerable group of voluntary organizations starting with Rotary Clubs and continuing the Alabama Society for Crippled Children and Adults. Many other organizations participated in the study as well as in financing plans.

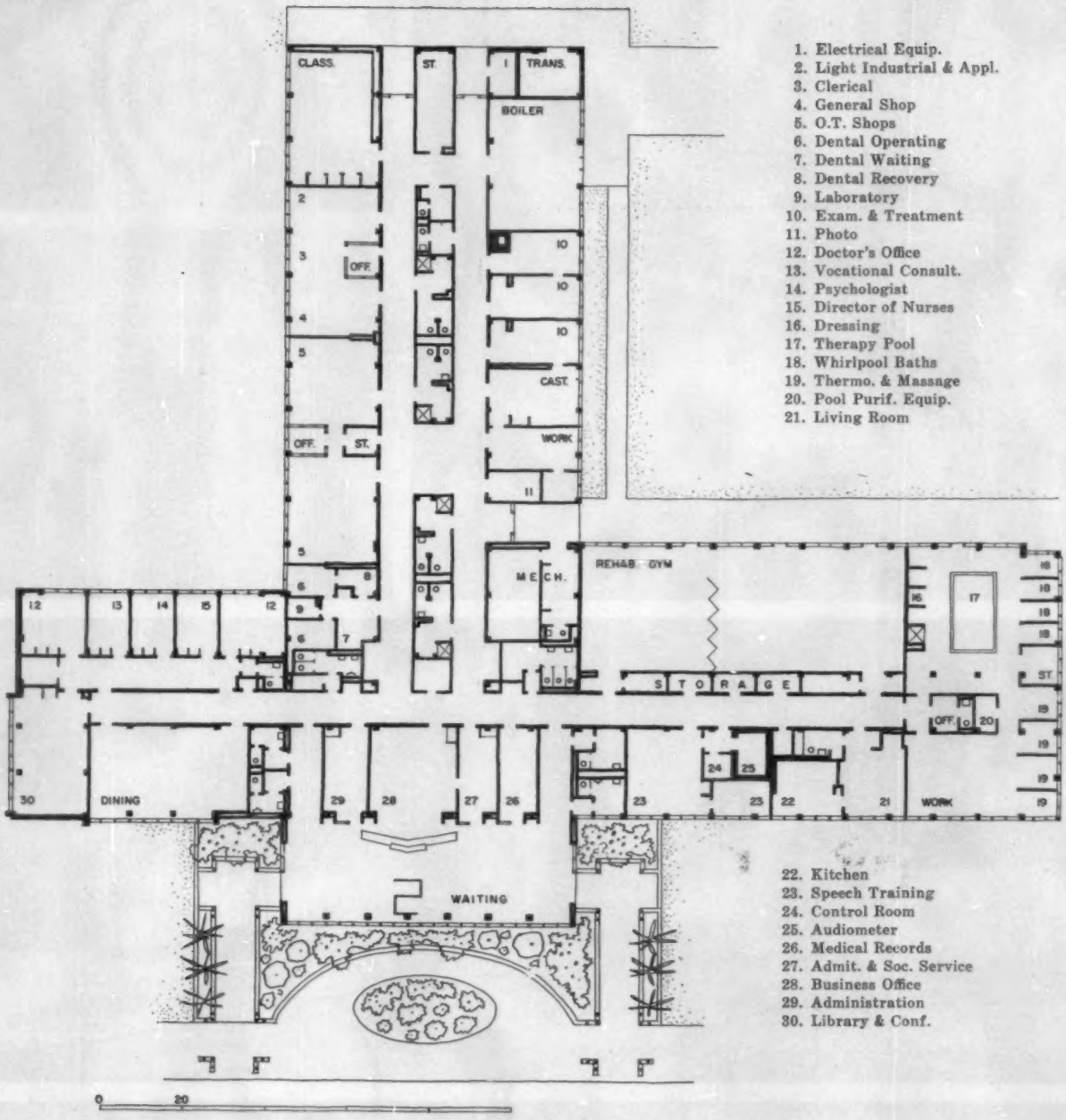
The building will house both in-patient and out-patient departments. Principal medical services will include physical and medical evaluation, physical therapy, occupational therapy, speech therapy, audiological services, prosthetic appliances, psychiatric services, and dentistry. Out-patient clinics will be operated for: orthopedic clinic; cerebral palsy clinic; cleft palate clinic; eye clinic; hearing clinic; epileptic clinic; muscular dystrophy clinic; amputee clinic; plastic clinic.

The center is located within reasonable distance of four hospitals, so that other medical services, such as x-ray and laboratory, will be available close by. There will also be vocational counseling, psychological service, and social evaluation along with the medical.

As for the building, it is poured-in-place concrete frame resting on spread footing foundation. Twenty year built-up roof with copper gutters and downspouts. The exterior walls are a combination of pink face brick, limestone and porcelain enamel panel walls. All public areas in the interior are structural glazed tile with structural



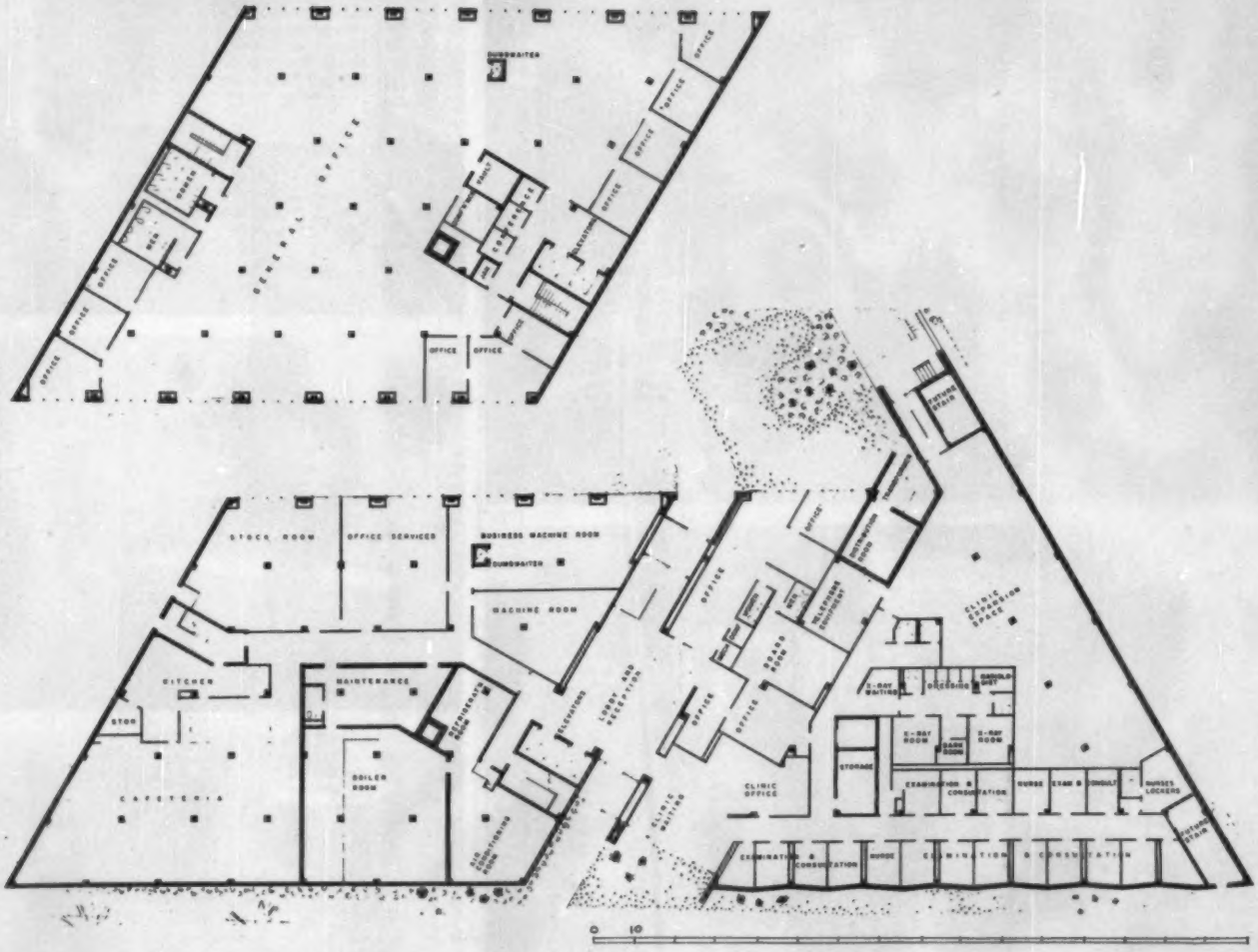




1. Electrical Equip.
2. Light Industrial & Appl.
3. Clerical
4. General Shop
5. O.T. Shops
6. Dental Operating
7. Dental Waiting
8. Dental Recovery
9. Laboratory
10. Exam. & Treatment
11. Photo
12. Doctor's Office
13. Vocational Consult.
14. Psychologist
15. Director of Nurses
16. Dressing
17. Therapy Pool
18. Whirlpool Baths
19. Thermo. & Massage
20. Pool Purif. Equip.
21. Living Room
22. Kitchen
23. Speech Training
24. Control Room
25. Audiometer
26. Medical Records
27. Admit. & Soc. Service
28. Business Office
29. Administration
30. Library & Conf.

Comprehensive Rehabilitation Center

glazed tile hand-rails for handicapped persons; except the lobby: it is marble, metal panel and aluminum frames. All ceilings are acoustical treated with 12 by 12 perforated acoustical tile hung by metal suspension system. All floors, except for the lobby, are vinyl tile; the lobby floor is terrazzo. All doors are hollow-core formica covered, 3 ft 10 in. in width to allow for wheel chairs and stretchers. The hydrotherapy room is tile throughout. The gymnasium is concrete block, painted. The building is air conditioned throughout.



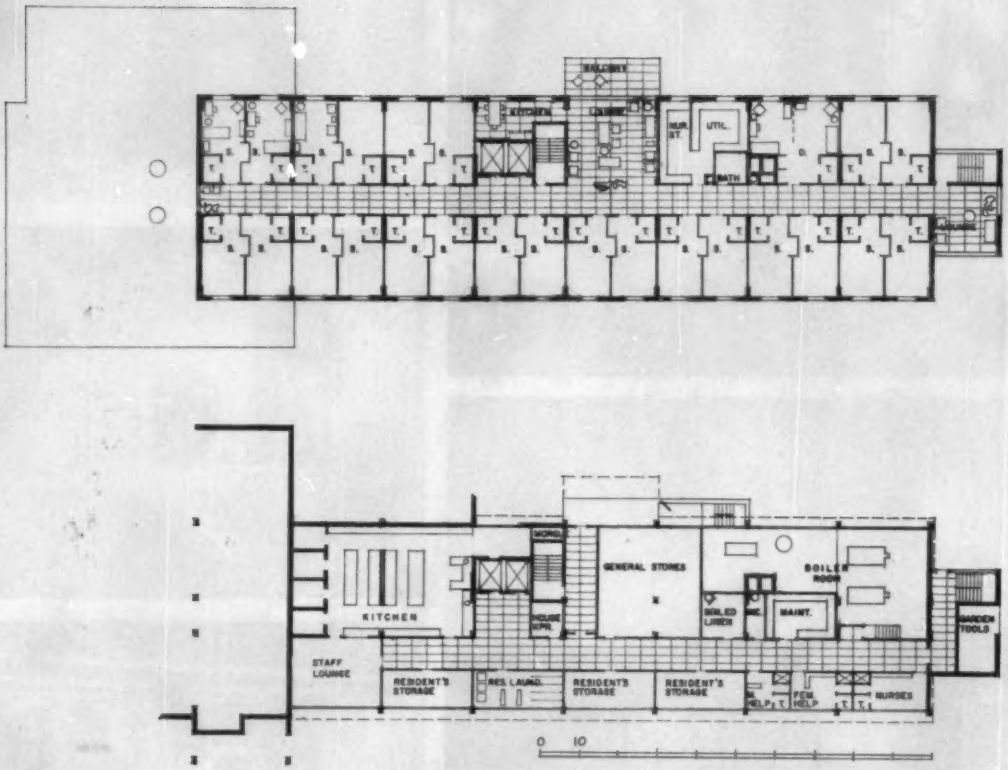
Health Insurance and Outpatient Clinic

Group Health Office and Clinic Building
St. Paul, Minn.

Architects and Engineers:
Haarstick Lundgren and Associates, Inc.

The triangular lot utilized for the site of the Group Health home office and clinic is responsible for the most interesting aspects of this building's design. A significant geometrical pattern, dictated by the equilateral dimensions and angles of the property, is evident in the plan view, where two separate functions within the building are represented by two different geometrical shapes—a parallelogram and a triangle. The restrictions imposed by the site were turned to advantage in creating a natural, though arbitrary division of space utilization. The wedge-shaped elements of structural design are subtly transferred to other parts of the building, as in the undulating exterior wall of the clinic, the triangular shaped reception desk, the bent angle of the free standing wall in the lobby, the "flying wedge" shape of the clinic office desk and the clean, simple interpretation of pine trees in the firm's symbol over the doorway.

The building is of reinforced concrete construction with exterior of brick, alumilited silicone panels and insulated glass. Walls are plaster except in special areas, such as toilets, where glazed structural tile is used, and in mechanical areas where lightweight concrete blocks are left exposed. Ceilings in all work and public areas are acoustical plaster with the exception of the large general office which is sound conditioned with a fiberglass insulated, perforated metal acoustical ceiling.



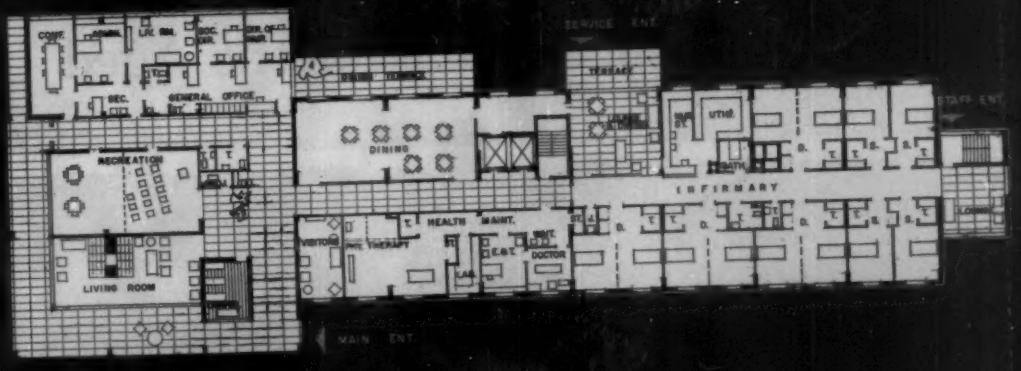
Home for the Aged, Modern Version

The architect who sparked the competition for homes for the aged* gives here a glimpse of one of his own efforts in this area. This is a proposal for a Baptist-sponsored home in the Washington area, presently planned for some 65 guests, with an addition possible for the future. The architect stresses the fact that the site is close to a major business street, a church, and convenient to public transportation. It is in a nice residential area, and enjoys a view of a wide valley, but is not isolated from life and activity. As for organization, the basement includes all staff and service elements; the first floor contains all elements to be used by residents in common, along with the administration area and a small "health-maintenance" suite along with the infirmary section. On upper floors, most of the rooms will be singles with bath, although some of those shown on the plan have since been converted as doubles. Each resident floor has a nurses' station and utility space; although most guests here will be ambulant, in a home for the aged some nursing care will always be required.

Proposed
Baptist Nursing Home
District of Columbia

Architects:
Noakes and Neubauer

*"An architectural competition for homes for the aged sponsored by the National Committee on the Aging in collaboration with ARCHITECTURAL RECORD and *The Modern Hospital*. (January 1957 ARCHITECTURAL RECORD)


GARAGE
SERVICE ENT.
COMP.
ADMIN.
LAC. RM.
DOC. OFFICE
SEC.
GENERAL OFFICE
RECREATION
DINING
THERAPY
UTHS
STAFF ENT.
FUTURE ADDITION
INFIRMARY
HEALTH MAINT.
VISITORS
THERAPY
DOCTOR
LAB.
LIVING ROOM
MAIN ENT.

William R. Bradley photos from Smith Bros.—Amer. Comm.

Old Hotel Becomes Home for the Aged

This mammoth remodeling project represents break-throughs in several respects. As a home for the aged it is probably the largest in the world; it is at any rate the largest current effort to break a jam in housing for old people. It is definitely the first project under the FHA's special authority to underwrite mortgage commitments in this field; the mortgage here is $4,000,000. The building is the old Hotel Detroiter, built in 1926; when the building became available the local Diocese plunged into the remodeling project even though the costs could not be closely estimated in the beginning. Actually early estimates proved very low, for the mechanical and electrical installations were old and full of violations. Plumbing, heating and ventilating systems were completely rebuilt; the electrical system contained so many violations that it was decided to replace it entirely, this involving a change from direct to alternating current. Replacement of mechanical and electrical systems represented 45 per cent of the total cost. As for the exterior, the building remains substantially as it was, except for the addition of chapel at second floor level extending out into the court, this raised on stilts to cover an outdoor recreational area in the garden. The interior of the building shows virtually complete renovation and refurbishing; Carmel Hall now represents a new high in facilities for the care and happiness of older people. It houses 450 persons, at an average total charge of $150 per month, and has a waiting list of around 4000.

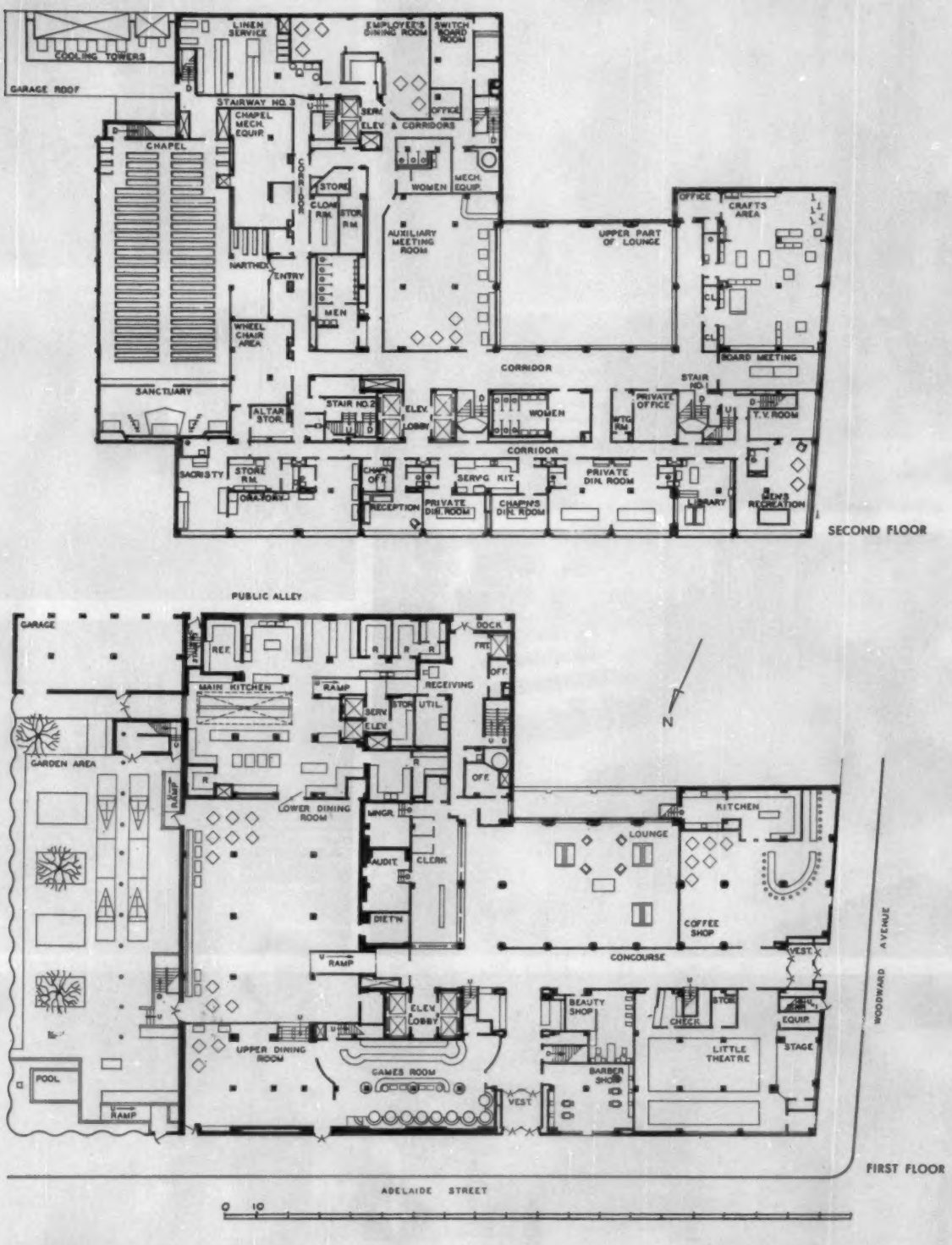
Carmel Hall
Detroit, Mich.

Owners:
The Carmelite Sisters
for the Aged and Infirm

Architects for the Remodeling:
Leo M. Bauer and Associates

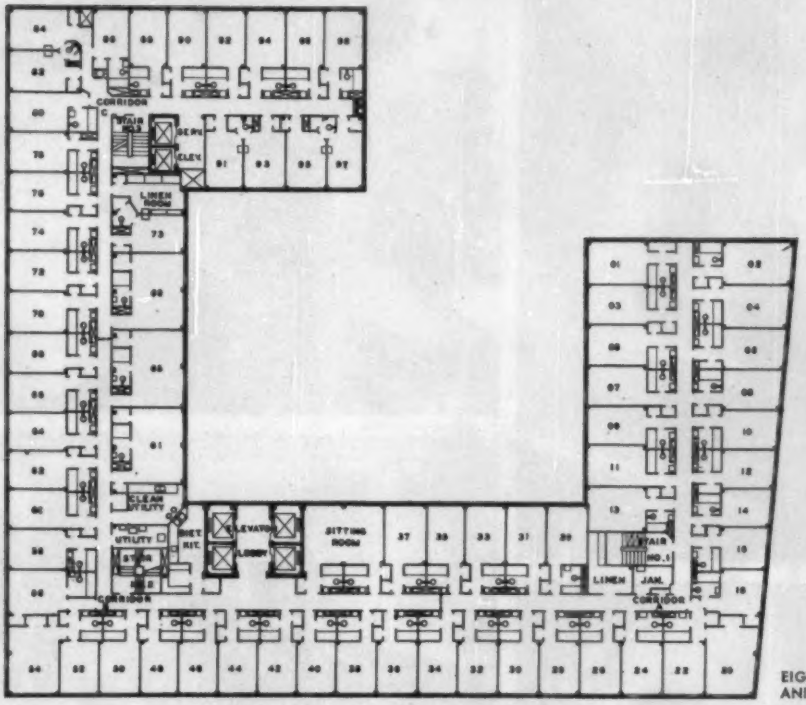
Mechanical Engineers:
F. O. Jordan Engineering Co.

Electrical Engineers:
Richard Klees, Jr. & Associates

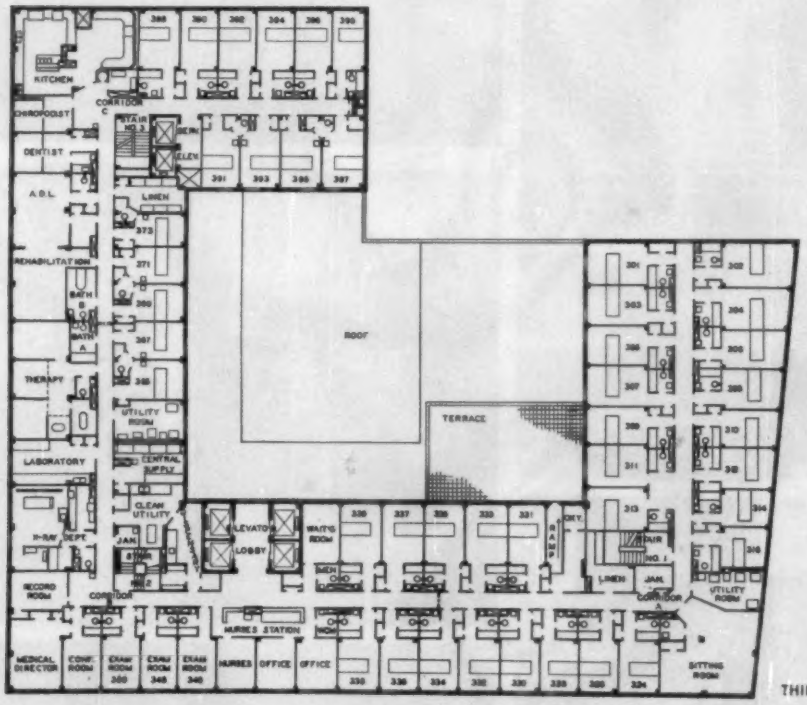


Old Hotel Becomes Home for the Aged

First and second floors contain most of the communal use facilities, and no home for the aged ever had more. Entertainment rooms include: game room, little theater, lounge, coffee shop, garden, private dining rooms, meeting rooms, TV rooms, men's recreation room, library, and crafts areas. Food service arrangements are especially comprehensive; in addition to the main kitchen and dining room, there are four major and two minor sub-kitchens plus smaller diet kitchens, each floor having one or more of these.



EIGHTH, NINTH AND TENTH FLOORS



THIRD FLOOR

Old Hotel Becomes Home for the Aged

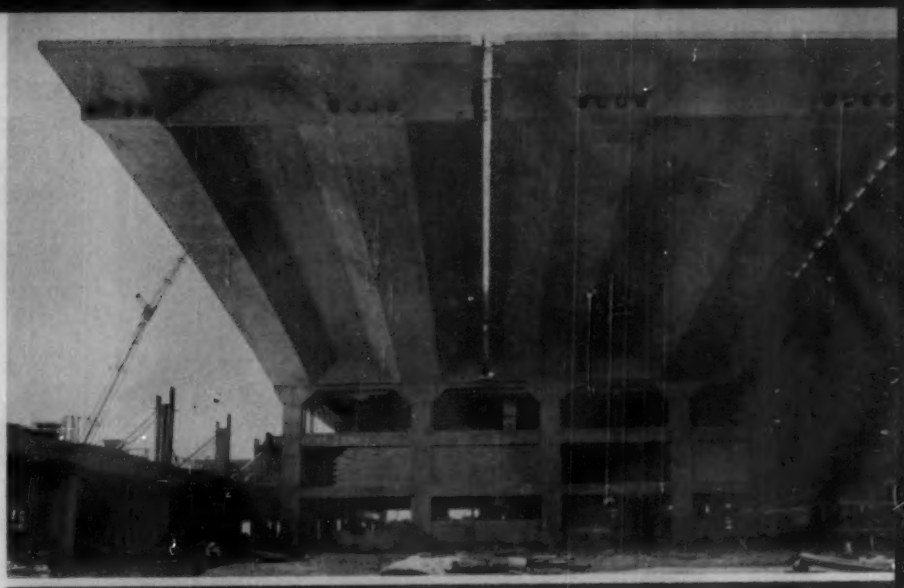
The infirmary section is divided into two parts, on the third and fourth floors. The fourth is devoted exclusively to residents needing custodial care, while the third is allocated only to bed patients. Third floor contains medical offices and examination rooms, plus a large section for therapy and rehabilitation, devoted largely to exercises and retraining instructions for cardiac cases. There is also a roof terrace at this level for wheel chair patients.

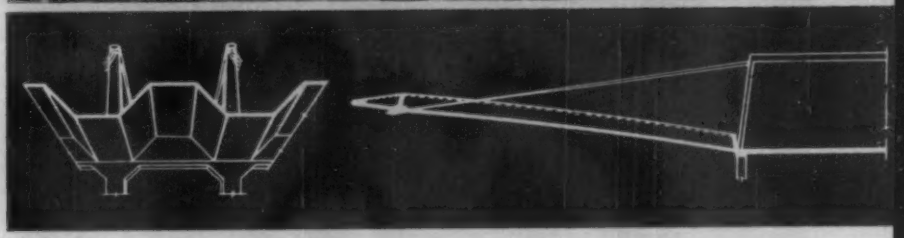
Accent:Engineering

Pan-American World Airways hangar, New York International Airport: Chester L. Churchill, Architect; Ammann & Whitney, Structural Engineers

Trans World Airlines hangar, New York International Airport: Ammann & Whitney, Engineers

National Airlines hangar, Miami International Airport: Weed, Russell & Johnson, Architects; Ammann & Whitney, Engineers





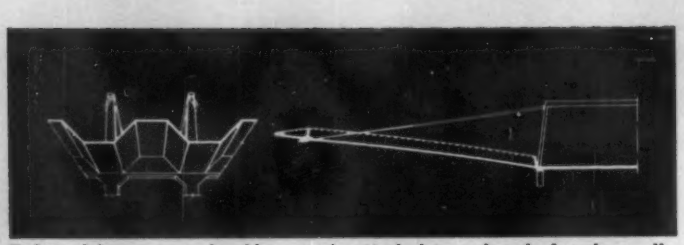
Charles Payne

Folded Plates Roof New Hangars

The rapid evolution of the flying machine from the frail mechanized box kite of the Wright brothers' day to the sleek skyborne giants of today has demanded equally rapid progress in the design of structure to house them. Converted barns long ago gave way to the more elaborate hangars currently prominent in our airportscapes. Now, with jets on their way into commercial use and who-knows-what to follow, these too are being waved aside to make room for such mammoth symbols of the coming Jet Age as the hangars shown here.

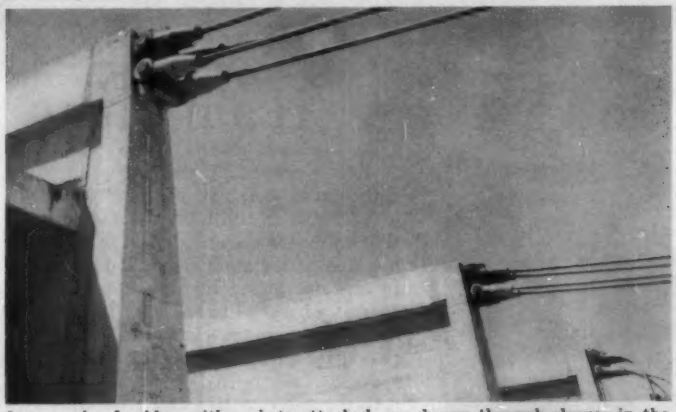
For all the simplicity of these structures, the problem is a complex one. Its most critical aspect from the hangar designer's point of view is the size of the new aircraft. Hangars to shelter them must be large. To accommodate varying sizes and shapes of planes—they must be free of space-stealing supports. And because hangars are still essentially utility structures, they must be economical.

Within the last two years, a new type of hangar has appeared which seems to offer maximum clear spans at minimum cost. Developed by New York structural engineers Ammann & Whitney for a Trans-World Airlines hangar at Kansas City, the scheme is being used for four other hangars now under construction. The Kansas City hangar consists, in essence, of a cantilever span cable-suspended on both sides of a central office core. Two of the hangars now

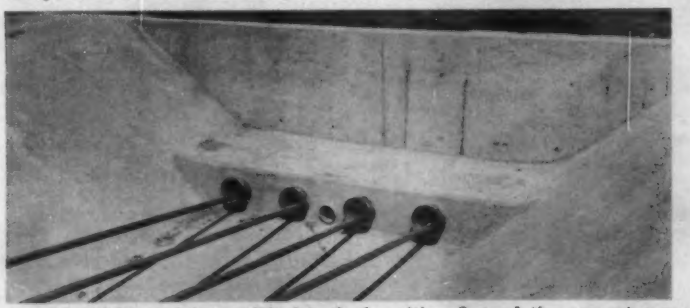


Before slabs are poured, cables are pin-attached to each end of anchor walls. Stresses go through walls via heavy plates welded to tension bars at top

When concrete reaches a compressive strength of 2500 psi, hydraulic jacks are set up to tension the cables to an average stress of 176 kips in each



Outer ends of cables, with sockets attached, are drawn through sleeves in the valleys of the roof. Sixteen cables, 8 on each side, are tensioned at a time



As cables tighten, slabs are lifted to final position. Lateral ties prevent sag before construction joints are poured between adjacent sections

Photos by Charles Payne

being built—one for National Airlines at Miami, the other for Mohawk Airlines at Utica, N. Y. (still in the early stages of construction—depart from the original in that their corrugated roofs are pure cantilevers. Shorter required spans made it possible to omit the suspension cables; nose pockets in the center section and canopy-type sliding hangar doors added enough depth to accommodate even large planes.

At New York International Airport, however, the Kansas City scheme has been borrowed intact for two hangar-office buildings which sit side-by-side just off the approach road to the main terminal area. Although the buildings for TWA and Pan-American World Airways differ slightly in size and shape, and in the arrangement of administrative facilities, they both closely follow the structural pattern set by the Kansas City prototype. Their cantilever roofs are suspended with the 6 ft deep corrugations running 30 ft on center perpendicular to the long axis of the building so that the beam action of the folded section supports loads parallel to the direction of suspension. To increase the strength which the corrugations give to the thin (4¾ in.) concrete deck, the cables are anchored in the valleys. The horizontal component of their thrust thus produces a negative moment which helps to counteract the positive moment from loads on the folded slab. At the other end, the cables are anchored to walls at 30 ft on center.

At Kansas City, where two floors of the center section were hung from these anchor walls, the combined loads from cable, roof and suspended floors were used to counter-balance each other. The unbalanced moments possible under certain conditions of loading (e.g. when the floors are not carrying a full load) were taken care of by reinforcing bars in the bottom of the wall, and a combination of reinforcing bars and post-tensioning wires at the top. At Idlewild, the floors—except in a part of the PAA hangar—are supported from below. The anchorage assembly was modified to include a tension tie made up of 24 square bars welded to steel plates which receive the four suspension cables at each end of the wall. Thus when the cables are tensioned, their horizontal force is carried through the wall.

To give access to the whole length of the hangars, the horizontal sliding doors along the sides roll on several tracks, stacking to leave about two-thirds of the hangar open if desired. Their design was complicated by the inherent flexibility of the roof and

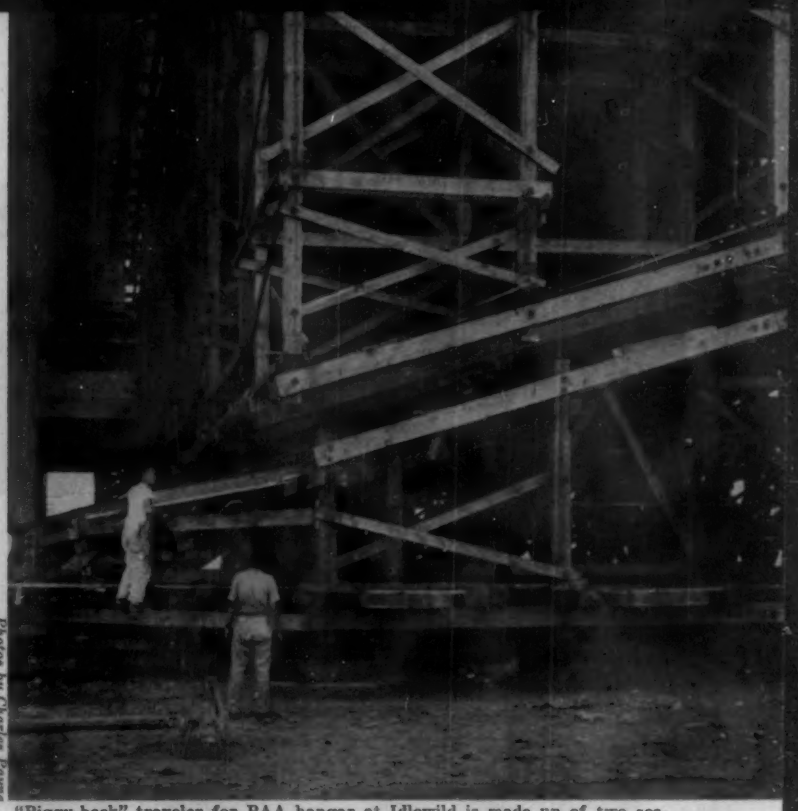
the deflection of its free edge under variations in temperature and loading. (Before the construction joints between adjacent sections were poured, it "gave" noticeably even under the weight of a single man.) To prevent the door leaves from restraining the vertical motion of the roof edge, the doors were made in two sections joined by a horizontal hinge. The lower vertical section is set out 10 ft from the roof edge; a short sloping upper section spans the gap between it and the roof. The roller assembly at the top, the wheels at the base, and the hinge at the break form a three-hinged arrangement which permits free vertical deflection —and adds 10 ft to the usable span.

Once the hangars were out for bid, the contractors took over where the engineers left off. Their problem was the same: The size of the buildings demanded the use of some sort of traveler rather than rigid falsework to support the forms; the folded plate roofs demanded the use of forms that could be lowered to clear the corrugations, raised for pouring. They came up with solutions as different as the hangars themselves are similar.

The roof for Pan-American's hangar was formed with a "piggy-back" traveler devised by Corbetta Construction Co.'s vice president, Charles J. Prokop. Made up of two sections of timber falsework with an inclined rail system between, the traveler is big (two bays wide), awkward and complex in appearance. Actually it is as simple and efficient as the wedge principle on which it operates. The bottom wedge, 75 ft wide, is topped by heavy timbers which carry the sloping rails. To raise or lower the upper section, double flanged wheels at four "carrying trusses" along its length are rolled up or down the inclined plane.

When the form is in pouring position, the lower section is secured by sills wedged under vertical jacking posts. Similar jacking posts in the upper section line up with those below, and screw jacks set along the plane of movement between the posts of upper and lower wedges lift the top section clear of the rail. By adjusting the jacks, the forms are brought to the exact height required.

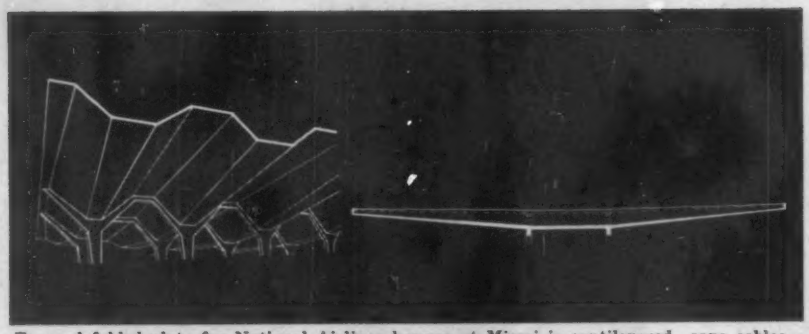
Using four of these travelers, the roof for the Pan-American job was concreted in double 60-ft sections, one on each side of the center core, starting at both ends and working toward the middle. After the slabs were cured, they were loaded by tensioning the cables in both sections simultaneously, thus lifting the outer edge of the roof about 6½ in. off the form. This started the stripping,



Photos by Charles Payne

"Piggy-back" traveler for PAA hangar at Idlewild is made up of two sections of timber falsework with an inclined rail between. To lower forms, bottom wedge is allowed to slide forward under downward thrust of top section. Its primary advantage: lumber can be salvaged

Similar hangar for TWA was formed using travelers made up of laminated timber trusses on eight posts braced by cross beams and steel rods. Hydraulic jacks at each column raise forms and lower them 6 ft to clear corrugations; sand jacks support them during pouring



Tapered folded plate for National Airlines hangar at Miami is cantilevered—sans cables—from a 2-story center core. Offices are on top level; shops in open nose pockets below

Wall at end of hangar (far left in photo below) indicates outset of hinged, canopy-type sliding doors which enclose two of six hangar positions, add 20 ft to their total usable depth

Giant "earthworks" shows scale of double span. Total hangar width is 270 ft; cantilevers extend 110 ft on each side of 50 ft center core, taper from 12 ft at roof to 3 ft at free end

which was helped along by driving wedges under the slab at its outer edge and along the sides. At the hinged end, where the tensioning lifted the concrete very little, the forms had to be stripped by removing the screw jacks that supported the upper sections.

To prevent movement when the wheels came in contact with the inclined rail, the top wedge was first anchored to a deadman in the ground. The bottom wedge was then released and allowed to slide forward under the downward thrust of the top section until the form had dropped enough to clear the valleys of the roof slab. When the upper and lower wedges had been locked to prevent further relative movement, the traveler was hitched over 60 ft to the next position, the top section re-anchored, and the bottom section pulled back until the jacking posts on both sections were again lined up. The form was then jacked up to a pouring position and the forming cycle repeated. Joints between sections were poured after the cables had been tensioned.

Although the forming method used by Grove, Shepherd, Wilson & Kruge for the TWA hangar was essentially the same as that used by Corbetta, the travelers themselves were not. In this case, the double wedge was replaced by laminated timber trusses supported on columns and braced in both directions by ¾ in. diagonal rods. Single-acting hydraulic jacks mounted on each column were used to raise and lower the forms; tripod sand jacks supported the concrete loads. Once the travelers were rolled into position, they were lifted clear of the rails by the hydraulic jacks, which also supported them while sand jacks were slipped under each vertical post. The hydraulic jacks were then retracted, and the form was allowed to settle onto the sand jacks during pouring.

When the slabs had set and had been raised to their final position by tightening the cables, the hydraulic jacks were again lowered onto chairs on each side of the rails and used to lift the traveler enough to permit removal of the sand jacks. They were then released slowly until the wheels at the base of the column had come to rest on the rails and the traveler could be moved to its next position.

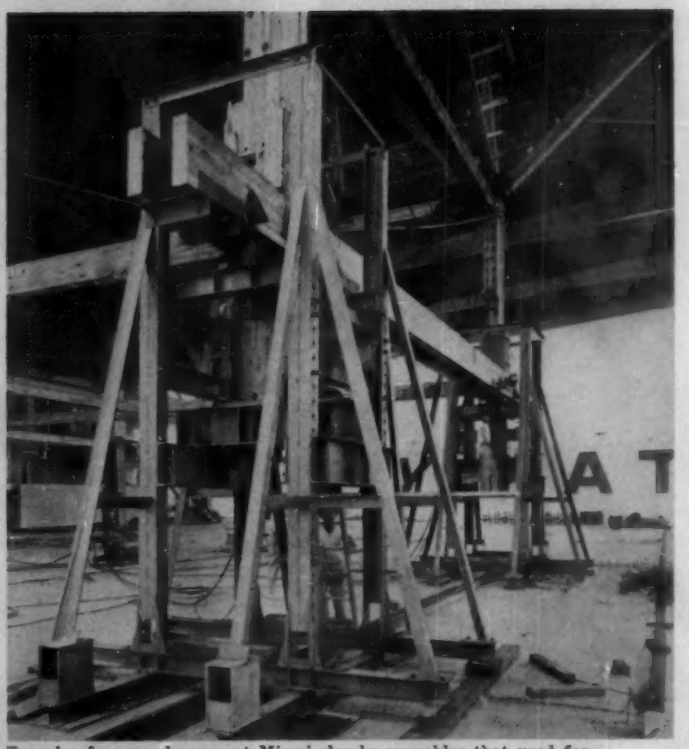
A variation on the same theme, the nose hangar for National Airlines at Miami International Airport is similar to the pair at Idlewild in approach—different in detail.

In this case the largest plane to be housed was the 140 ft DC-8. Because engine overhaul facilities were to remain in an adjacent building, the 50

ft wide, single-story office core could be lifted to second floor level, leaving the shops below and freeing enough ground space to provide a nose pocket 25 ft deep on each side of the hangar. With this added usable depth, the necessary roof span could be reduced to 110 ft. Thus while column free space along the entire 630 ft length remained a design criterion, the hangar depth became a less critical problem, and the folded plate roof—which had been proved economical for spans of 120 ft or less—was used as a pure cantilever on both sides of the two-story center section, giving a total hangar width of 270 ft and a usable depth of 135 ft on each side.

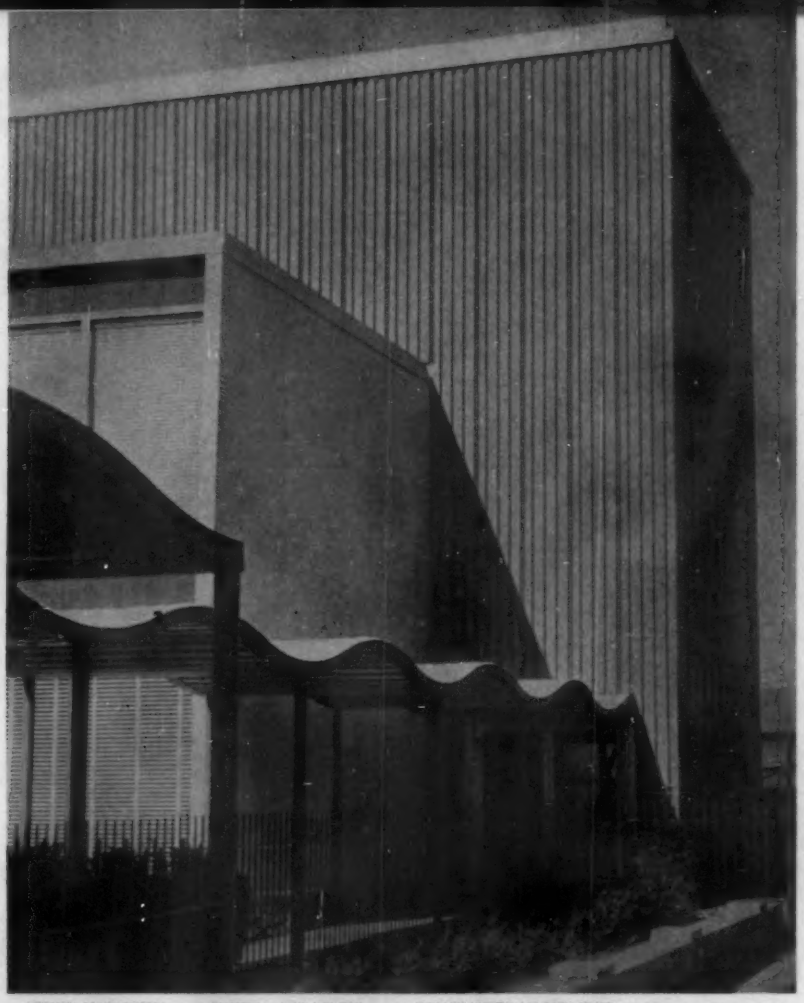
Although enclosed hangars are not necessary in Miami's mild climate, two of the six hangar positions were fitted with hinged canopy-type doors to form a sheltered area for certain maintenance operations and for storing disabled planes during hurricanes. The outset doors add 20 ft to these sections, making them 15 ft longer than the longest planes. In consultation with the engineers, the architects' original design for a simple folded plate with points at top and bottom evolved into a tapered folded plate with the ridges flattened to give a more efficient section at the lightly-loaded outer end. Because of the absence of supporting cables, the depth of the corrugations was increased to 12 ft at the roof of the cantilever, tapering to about 3 ft at its outer edge.

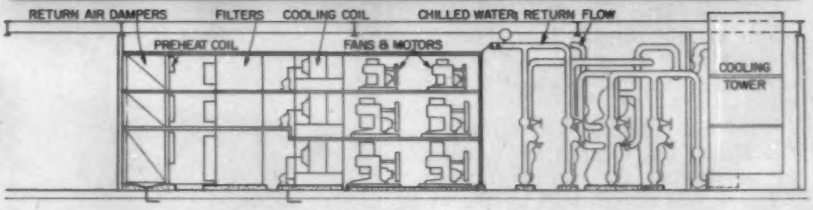
Fred Howland, Inc. contractors for the Miami job, escaped the problem of suspending the cantilevers, but forming was complicated by the extra depth of the corrugations, which made it necessary to raise and lower the forms in two stages. The laminated truss-type travelers, similar to those used for the TWA hangar in New York, were supported on vertical timber posts over steel jacking chairs made up of four perforated steel posts connected by cross braces on two sides. Two more steel beams placed crossways over the first two braces seated the sand jacks on which the traveler post rested; a third brace along one side of the frame seated a double-acting hydraulic jack which met a jacking seat on the post. When the traveler was being lifted, the hydraulic jacks raised it 6 ft and held it in place while cribbing and sand jacks were moved up and pinned to the perforated posts. The traveler load was then transferred to the sand jacks while the hydraulic jacks were moved up on cribbing and used to lift the forms another 6 ft. At this point, the sand jacks were again moved up to support the load during pouring.



Traveler for nose hangar at Miami closely resembles that used for TWA hangar, but extra depth of corrugations made two-lift jacking necessary. Hydraulic jacks were used to lift and lower; sand jacks supported traveler between 6 ft lifts and during pour

National Airlines





H. H. Robertson Co., Ambridge, Pa.
Oscar F. Wiggins, Architect
Rose, Beaton & Crowe, Engineers

Air handling equipment for the new H. H. Robertson Co. office building in Ambridge, Pa., is stacked on three levels in a narrow utility wing (photo above, section at right) which also forms a focal point in the exterior design. So that varying conditions could be set up for environmental studies, each floor was given its own independent system

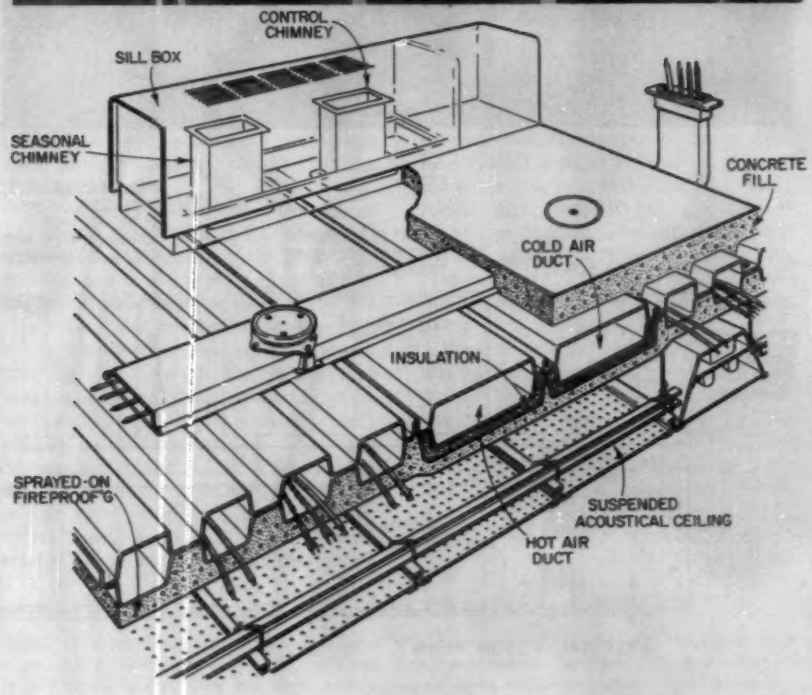
In-Floor Duct System Saves Space, Cuts Cost

If architects could have their way about it, they would squeeze air conditioning ducts down to a ribbon. In a sense, this is what has happened in a new dual duct distribution system that is having its first full-scale try-out in a new building of the H. H. Robertson Co., developer of the system, in Ambridge, Pa.

While buildings are demanding more and more air conditioning, architects are asking that less and less space be taken by mechanical components—thus the trend to high velocity air distribution, and consequent decrease in duct size. For the same reason, architects and engineers at various times have used the floor as ducting for air distribution systems.

For some years now the Robertson Co. has sold its cellular steel flooring for both a load bearing element and raceways for electrical flexibility within the floor system. It was a logical next step to consider the possibility of using some of these cells for transmission of hot and cold air to rooms either above or below the same structural floor. This has been done now by Robertson in a steel cellular floor especially designed with certain of the cells intended solely for carrying air. They say that initial costs can be cut by five per cent, and that from 8 to 16 in. can be trimmed off floor-to-floor height.

One of the earliest experimenters in the use of cellular steel flooring for air ducts was the late Richard P. Goemann who set up a small test installation seven years ago in his garage at Port Washington, L. I. (See ARCHITECTURAL RECORD, Oct. 1951, p. 252.) Following this, he had a chance to try out his ideas in a good-sized, one-story office building with basement using the standard cellular flooring. Then several years ago, Robertson became sufficiently intrigued with the idea to ask Goemann to develop a new system for them starting from scratch. Under their sponsorship, he set up a laboratory fully instrumented with sound, volume, pressure,



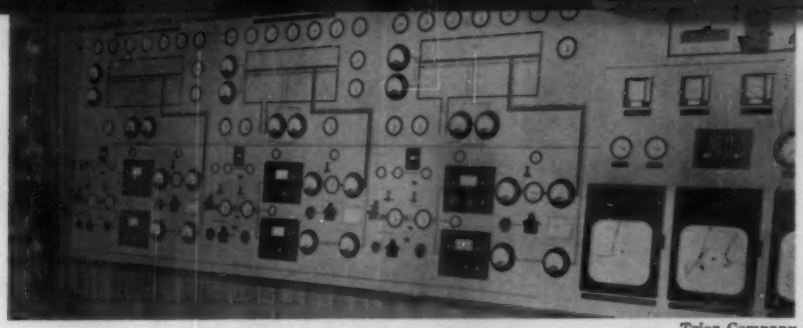
Although primary distribution is essentially the same as for conventional dual duct systems, the new Robertson system uses a cellular steel floor—which also provides electric raceways—for secondary air distribution. A major advantage is that both the hot and cold ducts can be used to carry cold air thus reducing the amount of ductwork required

and temperature recording and indicating devices for a large, special section of Robertson flooring, modified to provide reasonable air-handling capacity. After several years of closely coordinated work between the Port Washington laboratory and Robertson's people at the Ambridge plant, Robertson decided to erect a building which was to act as a practical workshop for determining the actual operating characteristics of the newly developed system. This building is not only a laboratory; it houses certain executive functions of the Robertson organization, parts of their engineering and sales staff, and was designed with the comfort of the occupants and the efficiency of the system in mind.

In consultation with Robertson officials, the engineers, Rose, Beaton and Crowe, established certain criteria to guide them in the design of the air conditioning system. They were:

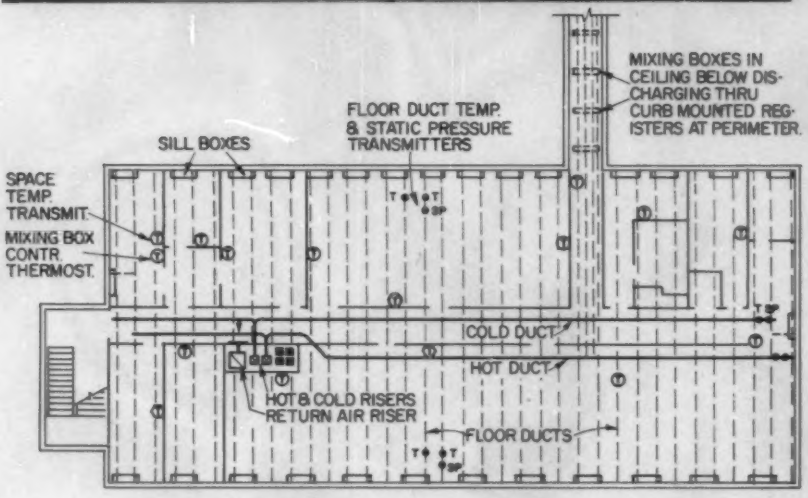
1. Each floor of the building had to have a separate air conditioning system, completely flexible within itself so that various conditions could be maintained on each floor, and environmental studies made.
2. The system had to be fully controlled in every respect—that is, the volume, temperature and relative humidity of the air introduced into each space had to be individually controlled. (Mixing boxes installed in the new building were designed by the company engineers at Ambridge.)
3. There had to be a central graphic control panel where all significant temperature and pressure relationships would be indicated and also recorded over long periods of time.
4. The central refrigeration was to be steam absorption type, steam coming from the plant steam system.

Actually the new system is a secondary distribution network for high velocity air. Hot and cold duct risers and supply header ducts are necessary, just as in conventional dual duct systems, to feed air to the cells. Rec-



Trion Company

To allow full control of the air introduced to each space, a graphic control panel was set up which gives current readings of significant temperature and pressure relationships, and records them over long periods


MIXING BOXES IN CEILING BELOW DISCHARGING THRU CURB MOUNTED REGISTERS AT PERIMETER.
FLOOR DUCT TEMP. & STATIC PRESSURE TRANSMITTERS
SILL BOXES
SPACE TEMP. TRANSMIT.
MIXING BOX CONTR. THERMOST.
COLD DUCT
HOT DUCT
HOT & COLD RISERS RETURN AIR RISER
FLOOR DUCTS

TYPICAL FLOOR PLAN

As shown in the plan at right, hot and cold air for office spaces flows through conventional risers and supply header ducts to secondary ducts in the cellular floor. Thermostats, and temperature and pressure transmitters at various points throughout the system permit accurate control

ommended air velocity in the cells is 2000 fpm, maximum, giving each cell duct a capacity of 400 cfm. Based on the figure of 1 cfm of air being supplied per sq ft of floor space, the maximum length of cell duct running laterally to the building would be 133 ft. (One side of a corridor, for example.)

A unique feature of the system is that it is designed to use the hot duct as well as the cold duct for cool air in summer. Conventional dual duct mixing systems generally are designed so that the cold side of the system is sized to transport the full air volume required for cooling. The hot side is sized to transport the full air volume required for heating.

This is how the Robertson system is different: In winter, volume control damper blades of the mixing box are positioned 90 degrees relative to each other. Thus as the hot duct damper opens, the cold duct damper closes. Volume of air supplied is relatively constant, but no more than the total capacity of one of the two ducts. In summer, when the outside air temperature goes above a certain point (62 F at Ambridge), position of the hot damper blade is changed by a geared mechanism so that both hot and cold dampers act in concert to increase or decrease the air to the space. Volume of air is not constant, and there is a fixed stop within the mixing box to prevent dampers in summer from going below minimum ventilation requirements. Maximum capacity is equal to the sum of both the hot and cold duct capacities.

Since the volume of hot and cold air supplied to rooms varies in both summer and winter, static pressure regulation is necessary to insure accurate control. This is accomplished by means of static pressure control dampers which are also a part of the mixing box. Static pressure sensing is provided in the duct system to cut down fan speed if such is indicated by the measuring device.

more roundup on page 242

Prefab Walls Cut Health Unit Costs

The prefabricated wall has in recent years become as much a part of office building interiors as has the fluorescent lamp. Now cost data on the first sizable installation of prefabricated interior walls in a U. S. hospital indicates that such walls may merit similar acceptance in health unit design. Two and a half years ago, 7350 linear feet of prefabricated interior steel walls were installed in St. Alexis Hospital, Cleveland, Ohio. On the basis of installation and maintenance cost figures compiled since that time, a saving of $150,000 over a ten year period has been estimated for this $3 million, 225-bed hospital.

The prefabricated wall system at St. Alexis includes all of the interior wall surfaces, doors, utility access panels, hardware, glazing and accessories—and comprises almost the entire interior of the building. The cost study shows that the ease of maintaining the baked enamel-finished walls and their stainless steel accessories accounts for a sizable chunk of the estimated savings. They can be washed twice as fast as plaster walls, and never need the repainting which must otherwise be done every third year. A second major saving shows up in the inevitable remodeling costs. Prefab walls can be moved with little or no loss of materials, at a labor cost about one fourth that of tearing down and rebuilding equivalent fixed plaster walls. Because they also lend themselves to simple, rapid utility changes, utilities can be relocated or installed at a fraction of the cost for the same change in other types of walls.

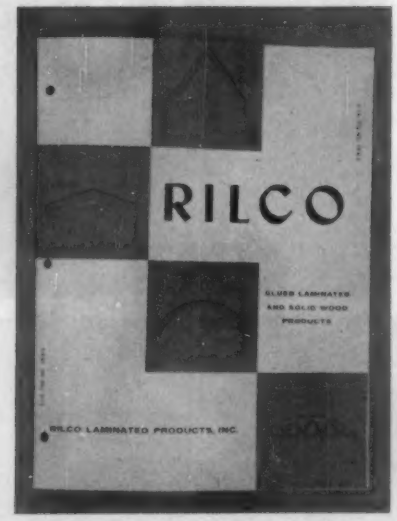
Still another advantage of the prefab walls lies in the speed with which they can be placed. With plaster walls, which require room-by-room installation of floors and ceilings, it takes about 21 months to complete a health unit comparable to St. Alexis. However the new building was ready for its first patient only 15 months after the first excavation. According to the architects, George S. Rider Company of Cleveland, this time saving was primarily due to the use of prefabricated walls.

Special accessories for the medical walls—including stainless steel sink units, shelving, dresser tops and corner shelves—were supplied by the Just Manufacturing Co. of Franklin Park, Ill. The walls themselves were fabricated and installed by *E. F. Hauserman Co., 6800 Grant Ave., Cleveland 5, Ohio.*

more products on page 260

Right: Pre-assembled, pre-finished *Medical Walls* are quickly and easily installed by slipping the panels into ceiling channels and anchoring them to the floor with floor stampings. The workman in the top photo is clipping adjacent wainscot sections together over the rough masonry exterior wall; the lower photo shows a utility access panel being installed. This panel may later be removed to make additions or repairs to utility lines

Below: Built-in stainless steel accessories designed for St. Alexis include a dumbwaiter (far left), and a combination sink and utensil storage cabinet (center). For the patients' rooms, the architect provided a double clothes closet and built-in dresser with stainless steel top. If specialized equipment is moved, the original flush wall can be restored by replacing one or two post caps and the three-inch vertical member between panel units



Glued Laminated and Solid Wood Products **(A.I.A. 19-B-3) describes and illustrates complete line of *Rilco* glued laminated wood structural members, including arches, beams, purlins, trusses and formwork. Each type is treated in a section which contains connection details and technical data as well as illustrations of typical uses. Specifications are included, as is a special section dealing with solid wood decking. *Rilco Laminated Products, Inc., W-818 First National Bank Bldg., St. Paul 1, Minn.****

A Study of the Corrosion
. . . *of Vaporizing-Liquid Type Fire Extinguishers* **evaluates factors affecting the corrosion behavior of pump-type vaporizing-liquid fire extinguishers. Bulletin of Research No. 50, *Underwriters' Laboratories, Inc., 207 East Ohio St., Chicago 11, Ill.***

Hanley Industrial Products
Describes the *Impervo* line of brick, floor brick and quarry tile designed for industrial and heavy commercial applications. 8 pp. A second brochure, *Hanley Brick and Tile*, covers glazed and unglazed facing materials. 12 pp. *Hanley Company, One Gateway Center, Pittsburgh 22, Pa.**

Bolta-Floor Catalog (A.I.A. 23-G)
Illustrates patterns and colors in the *Bolta-Floor* line of resilient flooring. Information on sizes and recommended applications is included, as are guide specifications. 12 pp. *Flooring Div., General Tire and Rubber Co., Akron, Ohio**

Kentile Design Booklet
Illustrates 48 new designs in resilient tile floorings. *Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.**

Non-Combustible Acoustic Products
(A.I.A. 39-B) Presents complete characteristics, including sound absorption coefficients, light reflectance values and flame-resistance ratings, for *Styltone* mineral wool tile and *Panatone* perforated metal panels. Specifications and installation methods are also covered. 4 pp. *Acoustical Products Div., Baldwin-Hill Co., 500 Breunig Ave., Trenton 2, N. J.**

Commercial Huckbolt Fasteners
. . . *Blind Rivets and Driving Tools* **discusses features, specifications and uses of the full line of Huck Commercial fasteners, and illustrates the driving cycle for each type. Manual, pneumatic and hydraulic tools for driving the fasteners are covered briefly in the new catalog, which also contains photographs showing typical applications. 12 pp. *Huck Manufacturing Co., 2480 Bellevue Ave., Detroit 7, Mich.***

Fluorescent Lamp Ballast Data
Contains information on ballast circuits, ballast construction, supply voltage and frequency, radio interference, ventilation and cold weather operation, and testing, along with a complete "quiet-rating" chart and other pertinent data on fluorescent lamp ballasts. *Advance Transformer Co., 2950 N. Western Ave., Chicago, Illinois*

Multi-Weathermaker System
Brochure describes and cites advantages of Carrier's *Multi-Weathermaker* plan for air conditioning multi-story buildings, covering such topics as the survey of total cooling needs, location of individual units, centralization of utility services and sequence of emplacement. *Weathermaker Dept., Carrier Corp., Syracuse 1, N. Y.**

Guard Window Detention Systems
(A.I.A. 16-E) Gives complete data on Bayley's single-unit detention guard, ventilator and screen. Layouts and dimensions, detail drawings, and specifications are included. 20 pp. *The Wm. Bayley Co., 1200 Warder St., Springfield, Ohio**

Lightweight Structurals
Contains data on design properties of J&L 10- and 12-inch joist sections, Junior Beams, Junior Channels and Light Beams. *Public Relations & Advertising Dept., Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh 30, Pa.*

Plastic-Finished Paneling
Covers complete line of *Marlite* predecorated hardboard panels, tongue-and-groove planks and blocks, and rigid hollow-core paneling, as well as installation accessories and moldings. Available patterns and styles are shown in color. 8 pp. *Marsh Wall Products, Inc., Dover, Ohio**

Package Passing Doors
(A.I.A. 30-F-61) Sixteen page catalog presents data on selecting and specifying cold storage package passing doors and tunnels. Doors are recommended for all standard operating conditions, with information on temperature ranges, door styles and types, insulation and ice-free gasketing. *Jamison Cold Storage Door Co., Hagerstown, Md.**

Freight Elevator Hoistway Doors
. . . . . *and Vertical Lifting Car Gates* **(A.I.A. 33-G) covers operation and design features, and layout and installation data on Otis hoistway doors and car gates for freight elevators. 12 pp. *Otis Elevator Co., 260 11th Ave., New York 1, N. Y.****

Architectural Lighting
Pocket size (4 by 7¼ in.) catalog highlights Lightolier's architectural light forms with detailed close-ups and interior sketches of actual installations. 32 pp. *Lightolier, Inc., Dept. AP, Jersey City 5, N. J.**

Additional product information in Sweet's Architectural File, 1958

more literature on page 298

Adlake

America's Finest Windows

Only Adlake combines
these 6 basic advantages

- **No warp, no rot**
- **Minimum air infiltration**
- **No painting, no maintenance**
- **Fingertip control**
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- **Guaranteed non-metallic weather stripping**

Also, Double-hung Windows with Patented Serrated Guides

See our 36-page listing in Sweet's Architectural File.

Building:
Corning Glass Works,
Corning, New York
Architect:
Harrison & Abramovitz
Contractor:
Geo. A. Fuller Co.
Type:
Adlake Reversible Windows

The Adams & Westlake Company

NEW YORK ELKHART, INDIANA CHICAGO

Patterns shown approximately one-half size.

Blue Ridge Introduces...

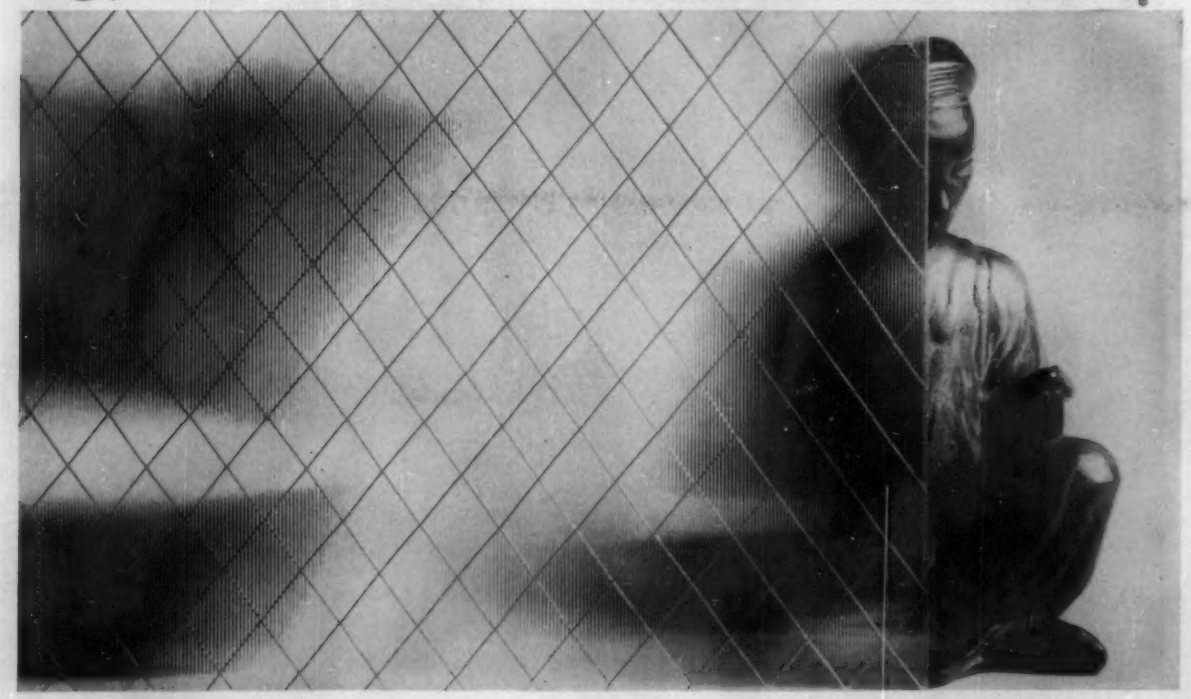
TWO MORE CREATIVE IDEAS IN GLASS

Blue Ridge contrasts the lustrous textured beauty of its Patterned Glass with the geometric symmetry of its Nuweld® wire mesh. The result — a *decorative* material that's handsome and crisply contemporary. It's available in hammered or ribbed patterns (shown here), and in polished. Write today for samples to Libbey•Owens•Ford Glass Company, Toledo 3, Ohio.

BLUE RIDGE GLASS

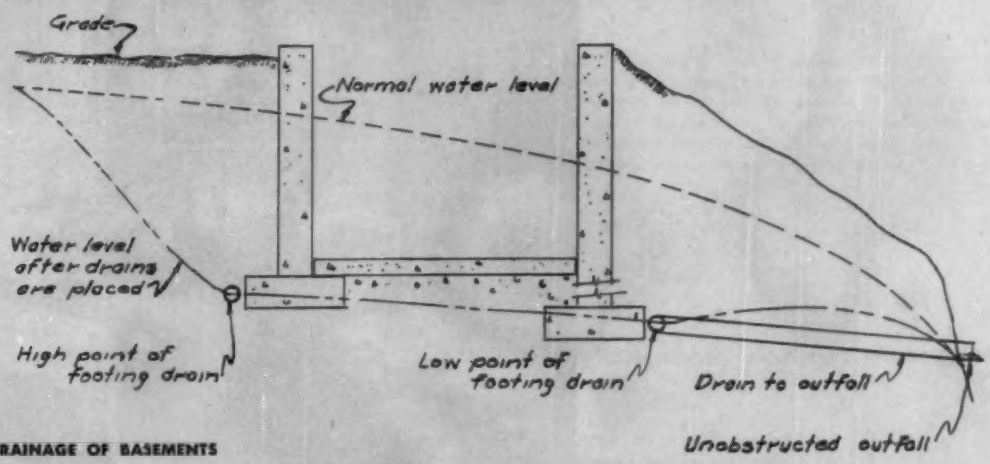
Patterned Wired Glass
by Blue Ridge

BLUE RIDGE GLASS CORP., Kingsport, Tennessee
SOLD THROUGH LIBBEY•OWENS•FORD DISTRIBUTORS AND DEALERS



WATERPROOFING FOR CONCRETE AND MASONRY: 1

By ELWYN E. SEELYE, *Seelye, Stevenson, Value and Knecht, Consulting Engineers, New York City*

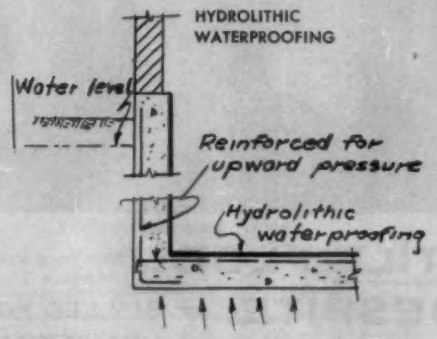


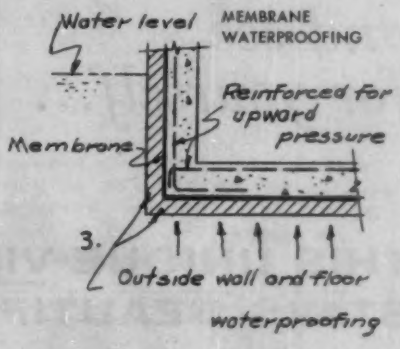
1. DRAINAGE OF BASEMENTS

Basement drainage must be taken care of by gravity drainage, assuming that extremely high ground water is not safely below the lowest basement. In general it consists of a system of footing drains and/or sub-floor drains.

Footing drains should be low enough to keep the water from coming up on the concrete floor on the inside, but not so low as to cause the possibility of loss of material under the footings due to drainage action.

Locate invert low enough: a. To drain underside of floor; b. To give satisfactory slope from high point. Lower footing bottom, if required, to keep drains above bottom of footing to avoid loss of material from under footing.





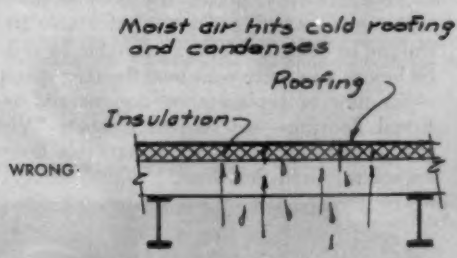
2. REINFORCED CONCRETE MAT OR RAFT

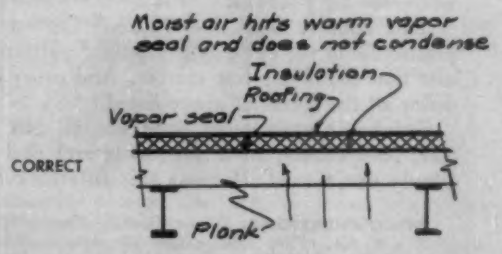
Reinforced concrete mats or rafts are reinforced concrete floor slabs or walls designed to resist the head of water expected. They are usually waterproofed.

In some cases expensive waterproofing may be omitted if construction joints are properly caulked and if a slight amount of seepage can be taken care of by floor gutters and sub-drain.

a) Hydrolithic methods consist of the application of coats of cement plaster containing iron filings or a similar type of waterproof plaster to the inside surfaces of the floors and walls.

b) Membrane Waterproofing—As it must be installed on the outside of walls and under floors, a membrane may be subject to a leak which will be neither accessible nor easy to locate. This membrane also has the disadvantage that secondary walls or floors must be provided for its application.




Moist air hits warm vapor seal and does not condense
Insulation
Roofing
Vapor seal
CORRECT
Plank
Vapor seal 1, 1 or 2 ply 15# felt mopped with 190° asphalt

3. VAPOR SEALS

A great deal of attention has been drawn to condensation due to water vapor hitting a cold surface.

continued on page 237

Look down the aisle and see for yourself...

THIS UNIQUE VINYL TILE FLOOR STAYS BEAUTIFUL DESPITE:

★ SPILLED FOODS
★ HEAVY TRAFFIC
★ TRACKED-IN DIRT
★ STRONG CLEANERS
★ GREASE, WATER

Aisles always betray first signs of wear. But at New York's busy Hotel Commodore Coffee Shop—well—see for yourself.

This floor is Gold Seal Nairon® Custom vinyl plastic tile in the exclusive Venetian* pattern—the one that looks like fine marble. And every day it defies all the forms of abuse listed.

But here, even seam lines are all but invisible. And cracks, furniture dents and dull spots simply don't exist. Because this full-thick homogeneous plastic tile defies the most rugged kind of wear.

No other vinyl plastic tile floor offers so much value or luxury. It's quiet, comfortable and totally unique in design. And it's available in nine colors. So before you write your next flooring specifications—for new or replacement, commercial or institutional flooring—see Nairon Custom "Venetian." It's just one of the many remarkable floors in the complete† Gold Seal line.

SPECIFICATIONS: Nairon Custom Plastic Tile—9" x 9" tile, ⅛" or .080" gauges—3 patterns, "Venetian," "Sequin," "Marble"—total of 49 colors. May be installed over, on, above or below-grade concrete floor or over suspended wood underfloors.

†FOR HOME/BUSINESS/INSTITUTIONS:
By the yard and tiles—Inlaid Linoleum • Nairon® Plastics • Vinylbest* Tile
Cork Tile • Rubber Tile • Asphalt Tile
Printed Floor and Wall Coverings—Forecast ® Vinyl, Congowall® and Congoleum® Satisfaction Guaranteed or Your Money Back *Trademark

FOR THE LOOK THAT'S YEARS AHEAD
Gold Seal®
FLOORS AND WALLS

Congoleum-Nairn Inc., Kearny, N. J.

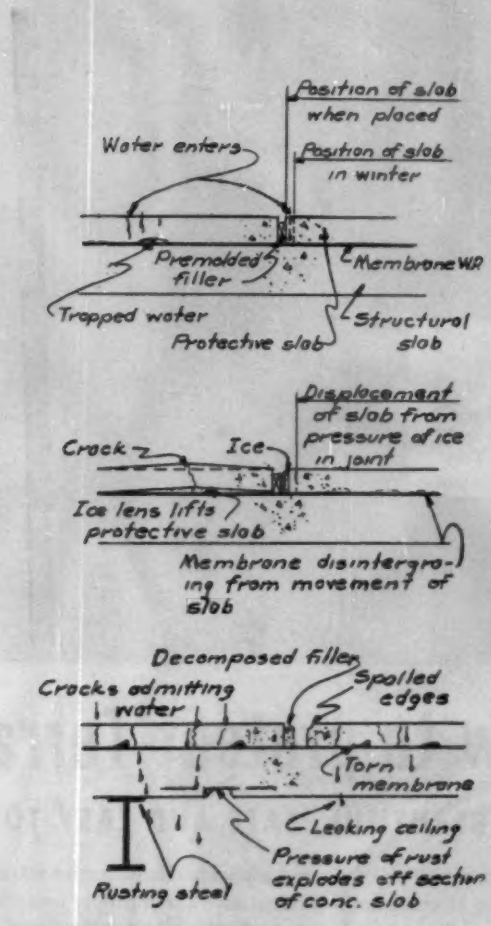
WATERPROOFING FOR CONCRETE AND MASONRY: 2

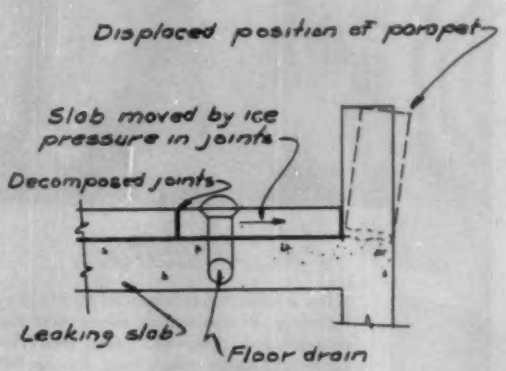
By ELWYN E. SEELYE, *Seelye, Stevenson, Value and Knecht, Consulting Engineers, New York City*

3. Vapor Seals *continued from page 235*

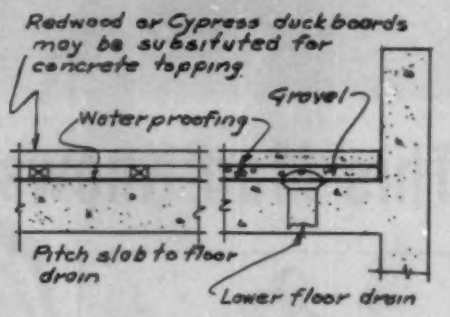
Even such a brief description as this must start with certain principles, as follows:

By Dalton's Law, in the case of two adjoining rooms, one containing a high degree of humidity and the other a low degree of humidity, the humidities will tend to equalize themselves through the partition, if it is not waterproofed or vapor sealed. This, naturally, applies to a top story room and the outside air. If the vapor seal for the roof is applied underneath the insulation the moist air coming up against the vapor seal will find a relatively warm surface and will not tend to condense. If the vapor seal is placed on top of the insulation the moist air coming up against the roof fabric will tend to condense and come back into the insulation as free water, with unsatisfactory results.





DIFFICULTY


Redwood or Cypress duckboards may be substituted for concrete topping
Gravel
Waterproofing
Pitch slab to floor drain
Lower floor drain

PROPOSED REMEDY

4. WATERPROOFING PAVED AREAS OVER UTILITY SPACES

The membrane is to be preferred for structures where the seepage is downward, such as sidewalk vault ceilings. The danger here is that the membrane which lies between the finished surface and the main supporting slab will trap water and cause the protective slab to freeze and heave, perhaps breaking the membrane.

To avoid this, drains must be installed at the membrane level and gravel or porous fill should be placed on top of the finished membrane before the finish surface is placed.

5. CORRECTION OF LEAKY WALLS

Driving rains may come through walls, even if flashings are correctly inserted. Leaky walls may be waterproofed by paraffin or colorless coating similar to silicone.

The most difficult type of leak to control seems to be one where the water comes down in or on the inside face of the wall and reaches the floor where it spreads out on the floor staining the ceiling or wall below.

Attempts to meet this with a spandrel flashing have not been entirely successful because of:

a) Failure to provide weep holes in the wall to assist in draining the water out. b) Failure to provide an adequate continuous watertight gutter clear of mortar droppings to catch water coming down the inside face of the wall.

Mr. Architect:
Keep terrazzo floors beautiful for the life of your clients' buildings. Proper sealing solves most maintenance and deterioration problems. Learn how Huntington Terrazzo Seal helps assure long, trouble-free life.

This Man Knows how to protect Terrazzo

ASK FOR

The Man Behind the Drum

The experience gained from servicing more than 25,000 public floors daily stands behind all Huntington products and Huntington Representatives. Put it to work.

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One step now will help to keep your clients' maintenance costs low —consult your Huntington Representative about proper protective sealing. He knows hard floors, and he knows finishing and maintenance. His experience can be helpful to you because nearly all of his work deals with the maintenance of institutional and industrial buildings. The problems of heavy traffic, special safety factors, or even undertrained maintenance help are not new to him—he knows how to work with men and maintenance materials to get the most from each. With this experience behind him, he is willing to job-captain the crew and advise and counsel in the proper methods and materials needed to finish any flooring material.

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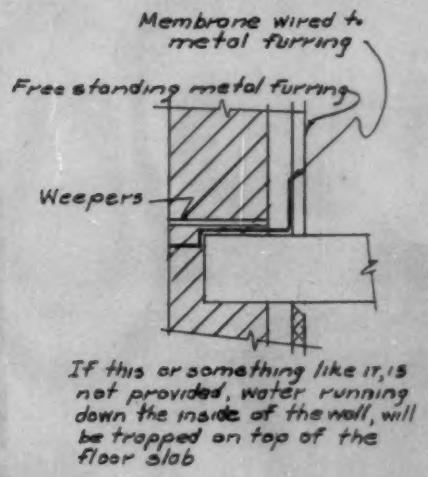
WATERPROOFING FOR CONCRETE AND MASONRY: 3

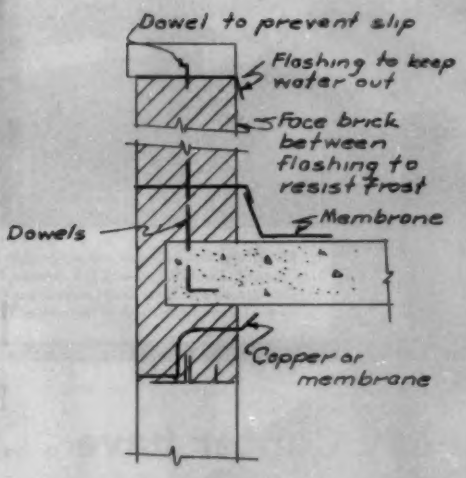
By ELWYN E. SEELYE, *Seelye, Stevenson, Value and Knecht, Consulting Engineers, New York City*


Membrane wired to metal furring
Free standing metal furring
Weepers
If this or something like it, is not provided, water running down the inside of the wall, will be trapped on top of the floor slab

6. WALL WATERPROOFING

Regarding the question of waterproofing walls, a checkup on the situation at this time leads us to conclude that the following are the best thoughts for obtaining waterproof walls:

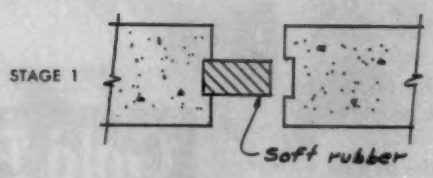
a) Thorough workmanship in laying the brick, full beds, no voids, etc.
b) Lime cement mortar, that is, 1-1-6.
c) Reasonably porous face brick for bond.
d) Parging back of face brick with mortar.
e) Continuous spandrel flashing at floors.
f) An independent furring.
g) Coating back of wall with hot asphalt emulsion applied with a spray or troweled.
h) Drips on all overhanging edges.
i) Sills projecting beyond the jambs, not ending flush at jambs.
j) Pointing of face with "weathered" or "concave" joints.
k) Lintel flashings turned up at ends.
l) Preformed bituminous waterproofing units may be built into the wall.
m) Pretest—hosing water between furring and wall may be required as a test.

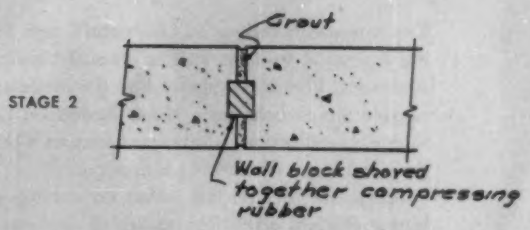


7. PARAPET WALL WATERPROOFING

Suggestions to obtain waterproof parapet walls:

a) A through wall cap flashing to seal off and lead down the water in the upper part of the parapet.
b) Shear anchorage of dowels or masonry offsets to prevent creeping, particularly under corners, of the parapet wall relative to the main wall—a common defect.
c) Avoidance of sealing in the water in the parapet wall with a bituminous coating. It will cause the wall to freeze and scale off brick.
d) Use of face brick or a hard burned brick in the rear of parapet walls.





8. PRECAST MASONRY UNITS

Problems in connection with precast masonry units include:

The exposed concrete should be waterproofed with integral waterproofing to avoid wet diaper appearance after a rainstorm.

Horizontal joints should be tongue-and-grooved in such a way as to throw out the water coming down the surface.

Vertical joints must depend upon mastic or cement and as there are considerable volumetric changes due to temperature and shrinkage, reliance must be had on an elastic mastic to caulk the joints. Perhaps vertical joints might be set up with compressed live or foam rubber between them.

Block-long Moody Center was designed by Architect George L. Dahl, Dallas, with J. E. Rourke, Plastering Contractors, and Texas Gulf Construction Company, General Contractors, both of Galveston, Texas.

Intricate ceilings at Moody Center have SPRAYED-ON ACOUSTICAL QUIET

The saw-tooth ceiling in Galveston's new Moody Center has acoustical value as well as unusual beauty. Gold Bond Sprayolite Acoustical Plaster was sprayed on the irregular surfaces to give this auditorium a Noise Reduction Coefficient of .55, plus high light-reflection...important features when 3000 people are watching a Broadway production.

Sprayolite goes on fast, leaves no joinings and dries to form a highly efficient acoustical ceiling of uniform color and texture. No additional finishing or painting is needed. These special plaster properties *cost only a few cents more than conventional plaster application.*

For more detailed information on Sprayolite see Section 12d/Na in Sweet's, call your Gold Bond® representative or write Dept. AR-38, National Gypsum Company, Buffalo 2, New York.

Gold Bond
BUILDING PRODUCTS

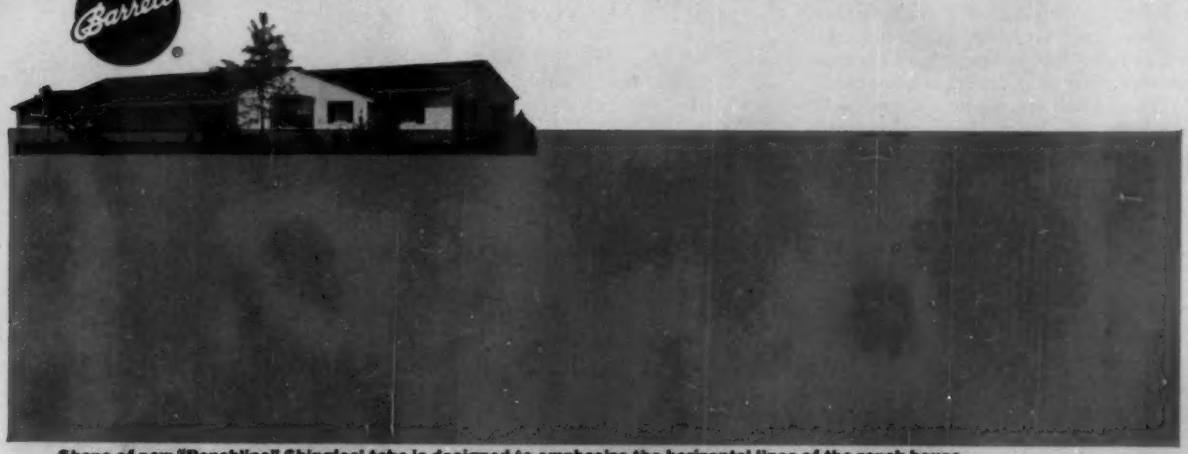
NATIONAL GYPSUM COMPANY

now Barrett stretches roofing shingles to ranch-house proportions

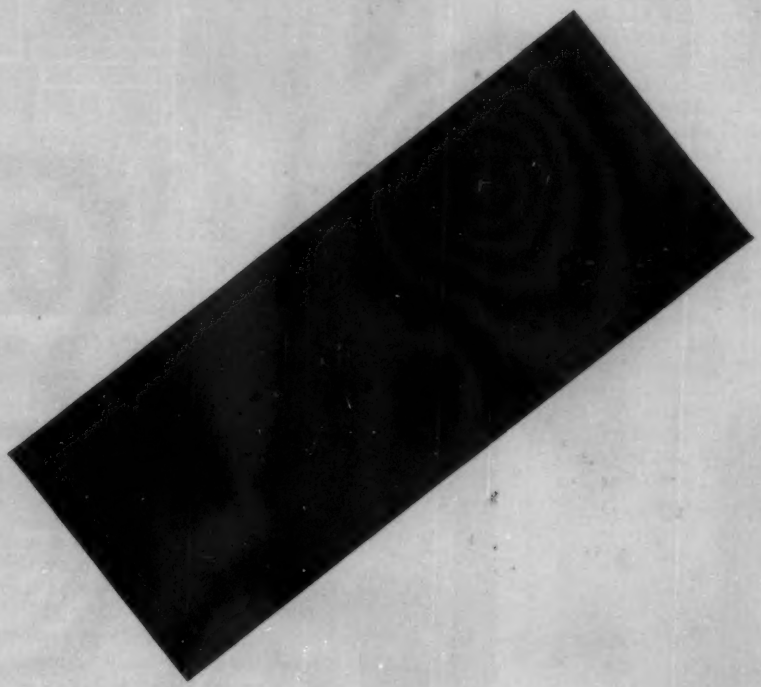
Should the shape of a shingle be the same on a high, colonial home and a long, lean ranch type? Obviously not. Ranch shingles should be proportionately longer, to accentuate the horizontal lines of the house. Recognizing this fact, Barrett now produces Ranchline† Shingles with two tabs that are 18″ long instead of three that are 12″. On the roof, the proportions of new "Ranchline" Shingles are 18″ x 5″. This gives the roof a longer, lower look and the entire house an extra sweep. Next ranch house you design, write *Barrett "Ranchline" Shingles* into your architect's specifications. Barrett Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, New York. In Canada: The Barrett Company Ltd., 5551 St. Hubert Street, Montreal, Quebec.

Allied Chemical

Barrett® RANCHLINE SHINGLES



Shape of new "Ranchline" Shingles' tabs is designed to emphasize the horizontal lines of the ranch house.



Shape of conventional shingles' tabs was designed for multi-story homes...too narrow for ranch houses.

†Trade Mark of Allied Chemical

Technical Roundup

continued from page 230

AUTOMATIC PARKING GARAGE TO BE RUN BY CASHIER'S KEY

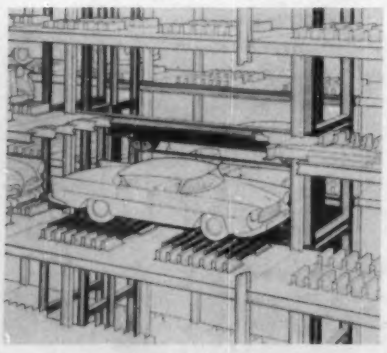
The latest advance in mechanized off-street parking facilities is a completely automatic parking system which will be installed in an eight-story garage near New York City's Times Square. According to its developers, the garage will be the first to use "high-speed automatic machinery for what is obviously a machine's job," parking and discharging automobiles at the rate of three a minute with only a single attendant.

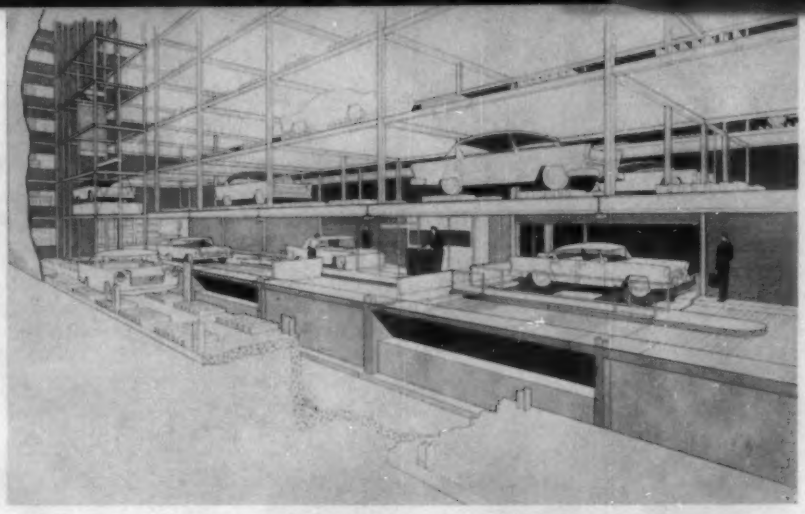
When a car arrives at a street-level platform, the lone attendant, a cashier, removes a numbered key from a central control panel and hands it to the driver as his parking "receipt." An individual meter begins ticking off the time and charges for the assigned space and the motorist is free to go on his way. His car, however, becomes the subject of a whole series of automatic operations triggered by removal of the key from the panel. An elevator door opens at one side of the car, and a steel fork-lift conveyor edges from the shaft into floor grooves under the car wheels, lifts the car, pulls it into the shaft, and whisks it up to the floor where it is to be parked. When the car reaches the proper vertical level, the conveyor "switches gears" and travels horizontally to the assigned locker space. There it forks the car onto stationary parking blocks, sinks below the tires, and retreats into the shaft to await further instructions from the master control panel.

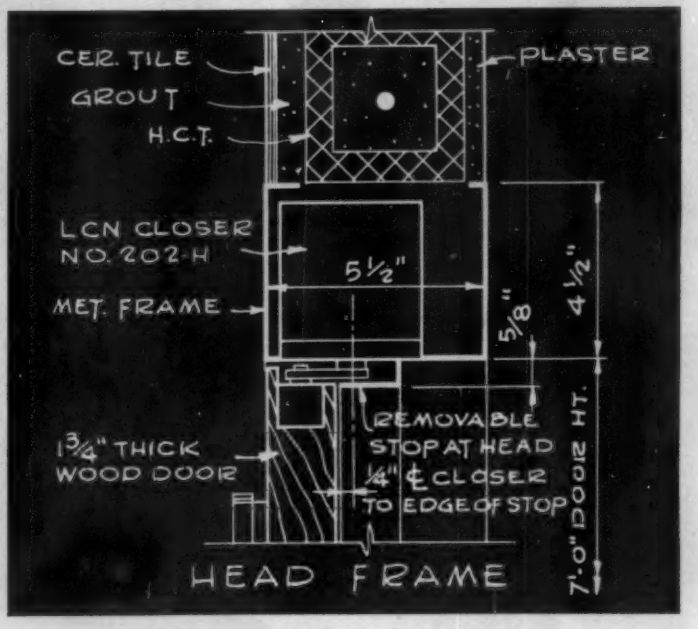
The returning motorist initiates the un-parking process by presenting his key to the cashier. When the key is replaced in its original position in the control panel, the conveyor instantly goes to the locker space indicated, and, operating in reverse, brings the car to the outgoing driveway. Delivery takes an average of 57 seconds—just time enough for the cashier to collect the metered fee.

The system was invented by Mihai Alimanestiano, now president of

continued on page 245







CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Shown on Opposite Page

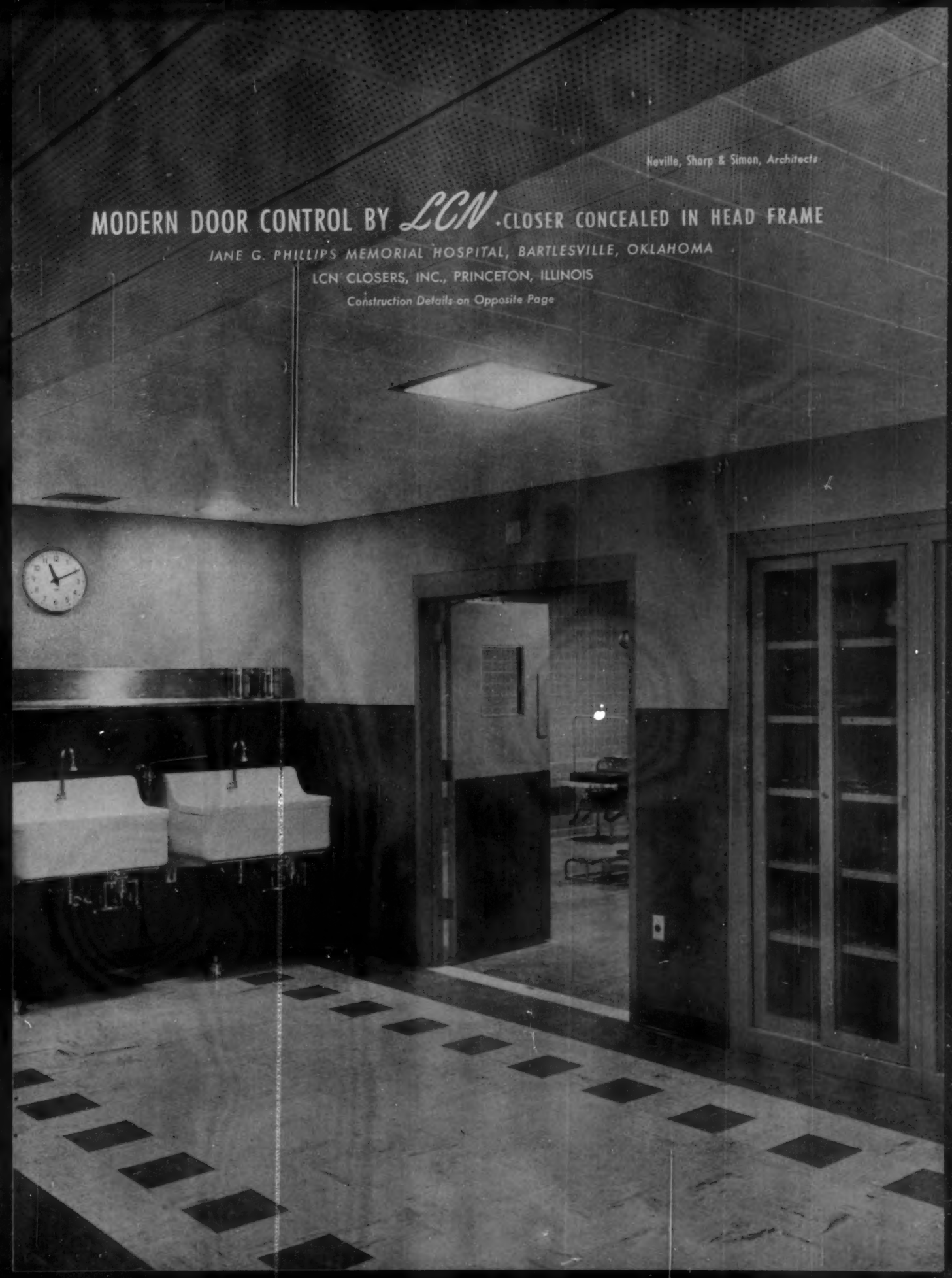
The LCN Series 200 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm disappears into door stop on closing
3. Hydraulic back-check prevents door's being thrown open violently to damage walls, furniture, door, hinges, etc. Door may open 180°, jamb permitting
4. Hold-open (optional) set at any one of following points: 85°, 90°, 100° or 110°
5. Easy to regulate without removing any part
6. Used with either wood or metal doors and frames.

Complete Catalog on Request—No Obligation
or See Sweet's 1958, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario



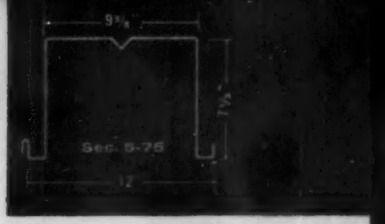
Neville, Sharp & Simon, Architects

MODERN DOOR CONTROL BY *LCN* - CLOSER CONCEALED IN HEAD FRAME

JANE G. PHILLIPS MEMORIAL HOSPITAL, BARTLESVILLE, OKLAHOMA

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



announcing...

Two new Robertson

Long-Span Deck Types...

H. H. Robertson Company
2404 Farmers Bank Building • Pittsburgh 22, Pennsylvania

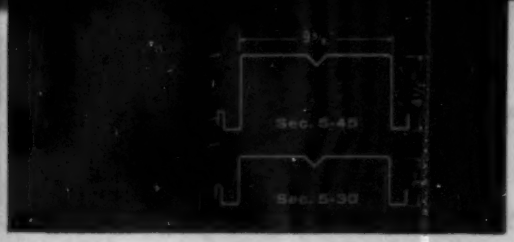
Please send additional information on Long-Span Q-Deck.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____ CITY _____

Because Long-Span Q-Deck is manufactured with exceptional accuracy, rib lines are clean and straight—make ideal exposed ceilings. And because the fluted shape has demonstrated a marked degree of noise reduction, further acoustical treatment is not necessary in many cases.



The basic cross-section of Section 5-45 and 5-30 is the same as standard long-span Section 5-75. Only the vertical dimensions are different.

• • • for new roof design freedom

Robertson's Section 5 Long-Span Q-Deck has enjoyed wide acceptance since its introduction two years ago. It has filled the requirements for economical long spans in the construction of schools, supermarkets and other building types. Now, two new variations have been added to further increase cost-savings and add to design latitude.

You will notice from the drawings above that the basic cross-section is the same—only the vertical dimensions have been changed. The underside of the decks retain the same appearance making practical the combination of all three types for greater economy for varying load and span requirements.

As with all of Robertson's five Q-Deck types, the new Long-Span designs are weight-saving, strong, precisely made and easily erected. Lighting fixtures can be recessed, surface mounted or suspended. Any type of insulation (1" minimum) and built-up roofing can be applied. Write for literature which includes complete details, load and property tables.

ROBERTSON LONG-SPAN

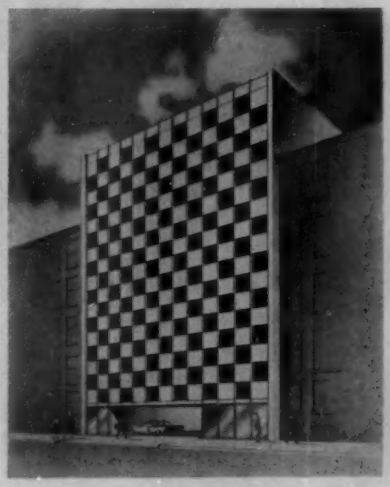
Q-DECK

H. H. ROBERTSON COMPANY
2404 Farmers Bank Building • Pittsburgh 22, Pa.
In England—Robertson Thain Ltd., Ellesmere Port, Cheshire
In Canada—Robertson-Irwin Ltd., Hamilton, Ontario

Technical Roundup

continued from page 242

Speed-Park, Inc. Equipment and controls for the 276-car New York City garage—and for the remainder of a series of similar facilities to be constructed in principal cities here and abroad—will be manufactured, installed and maintained under a contract agreement with the Otis Elevator Company. In each instance, the basic Speed-Park design will be adapted, foundation and façade plans prepared, and actual construction supervised by a local architectural or engineering firm.



New Bank to Replace Old One: Same Site, Business As Usual

A shiny glass and aluminum office tower is rising on the site of the Bankers Trust Company building in New York City—but the banking and vault facilities which extend from the sub-basement through the second floor of the existing 11-story structure will suffer nothing more than a thorough face-lifting while the new tower is erected around and over them.

From the third floor up, the building will be stripped down to a skeleton and its framework used for the new structure. To permit bank services to continue uninterrupted, the building was designed so that major construction activity would take place on an adjacent property which was incorporated into the total building site. On this section of the site, a new steel superstructure will rise the full 19 stories, capped by 12 ft deep trusses cantilevered over the existing structure. The three top floors and the roof of the new building will be

continued on page 248

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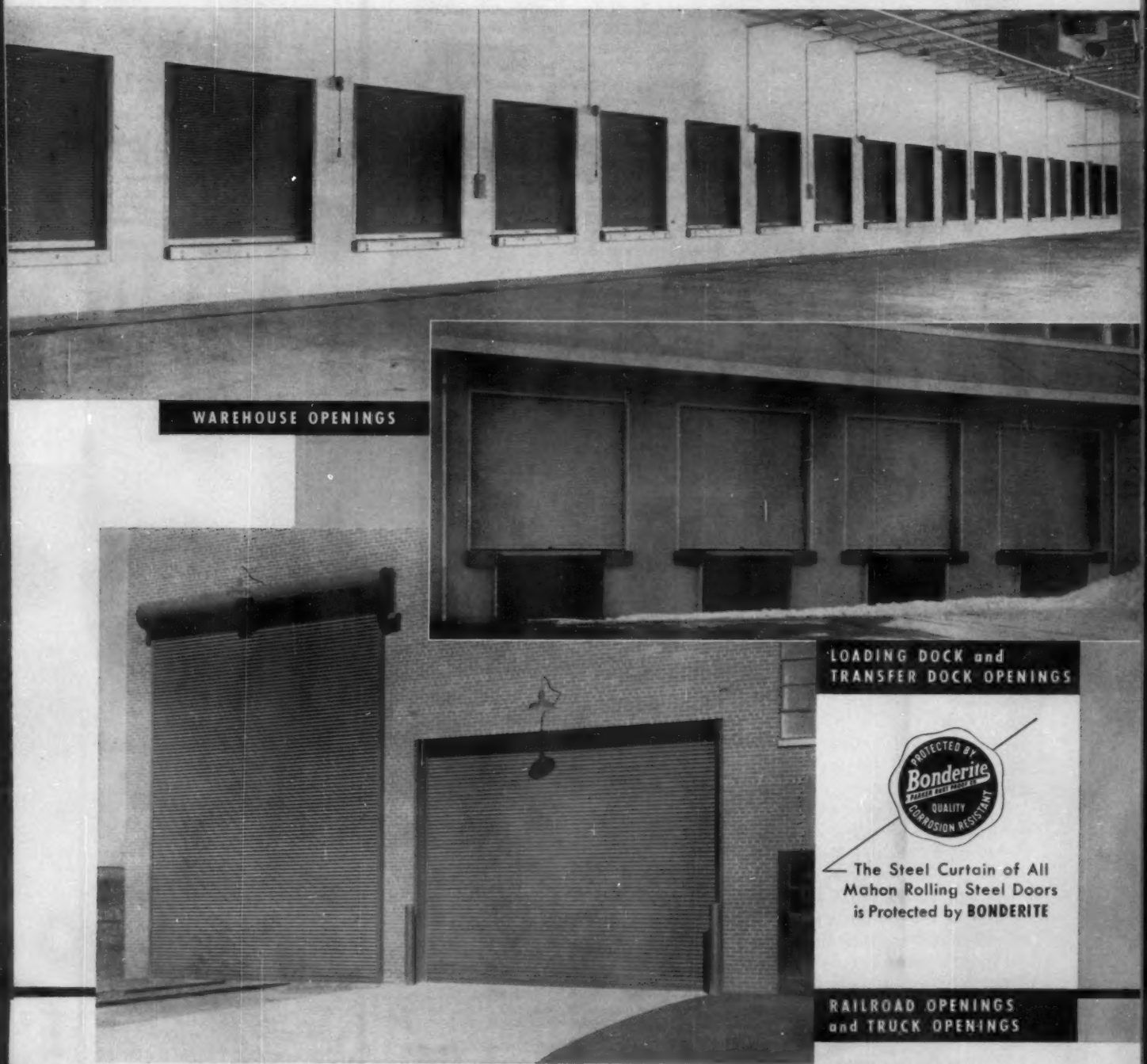

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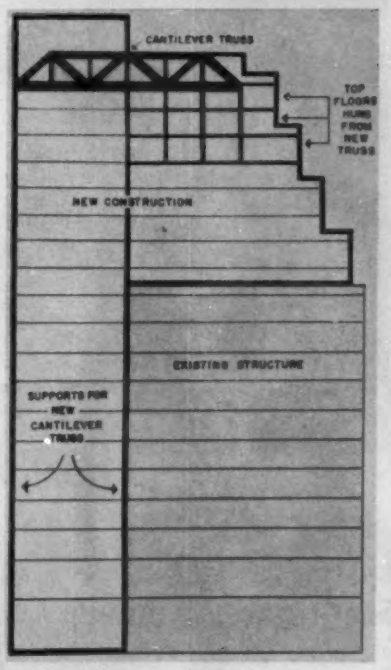
Technical Roundup

continued from page 245

suspended from these trusses; the intervening floors will be supported from below. To develop the load-bearing capacity for carrying these additional floors, the present steel framework will be strengthened by erecting new columns around the existing ones and replacing two massive masonry columns with steel.

Construction plans were developed by Emery Roth & Sons, and James Ruderman, consulting engineer. The Bankers Trust Company was represented by Shreve, Lamb & Harmon, architects, and Purdy & Henderson, engineering consultants.



more roundup on page 254

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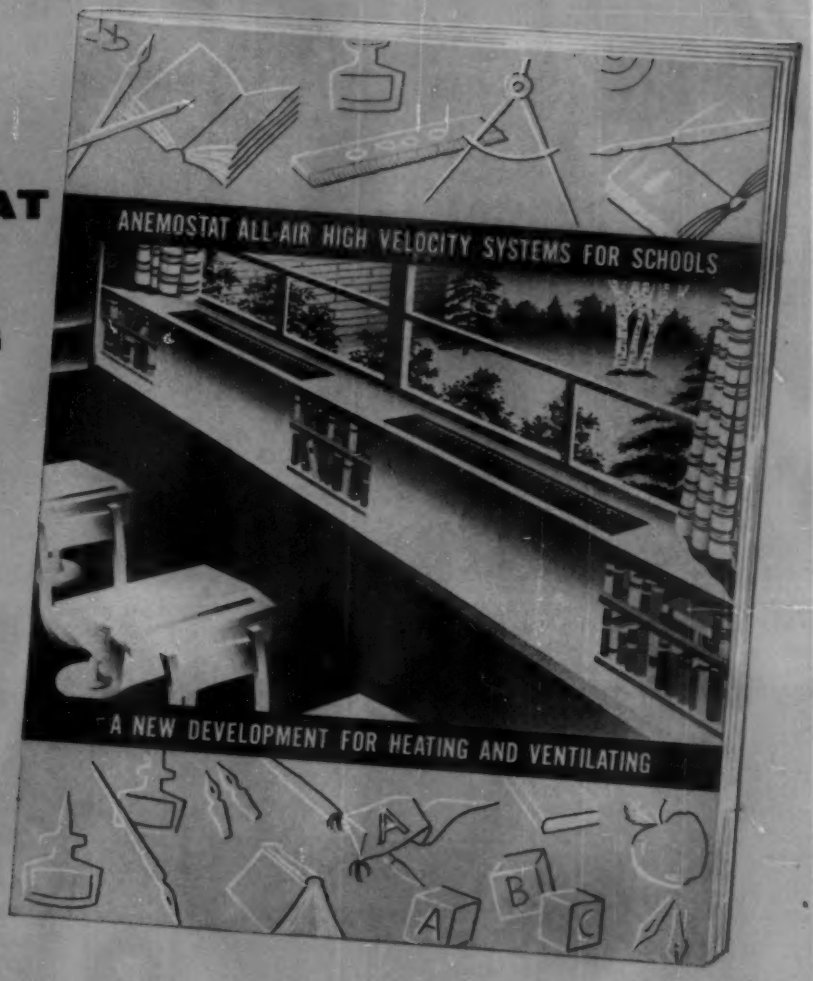

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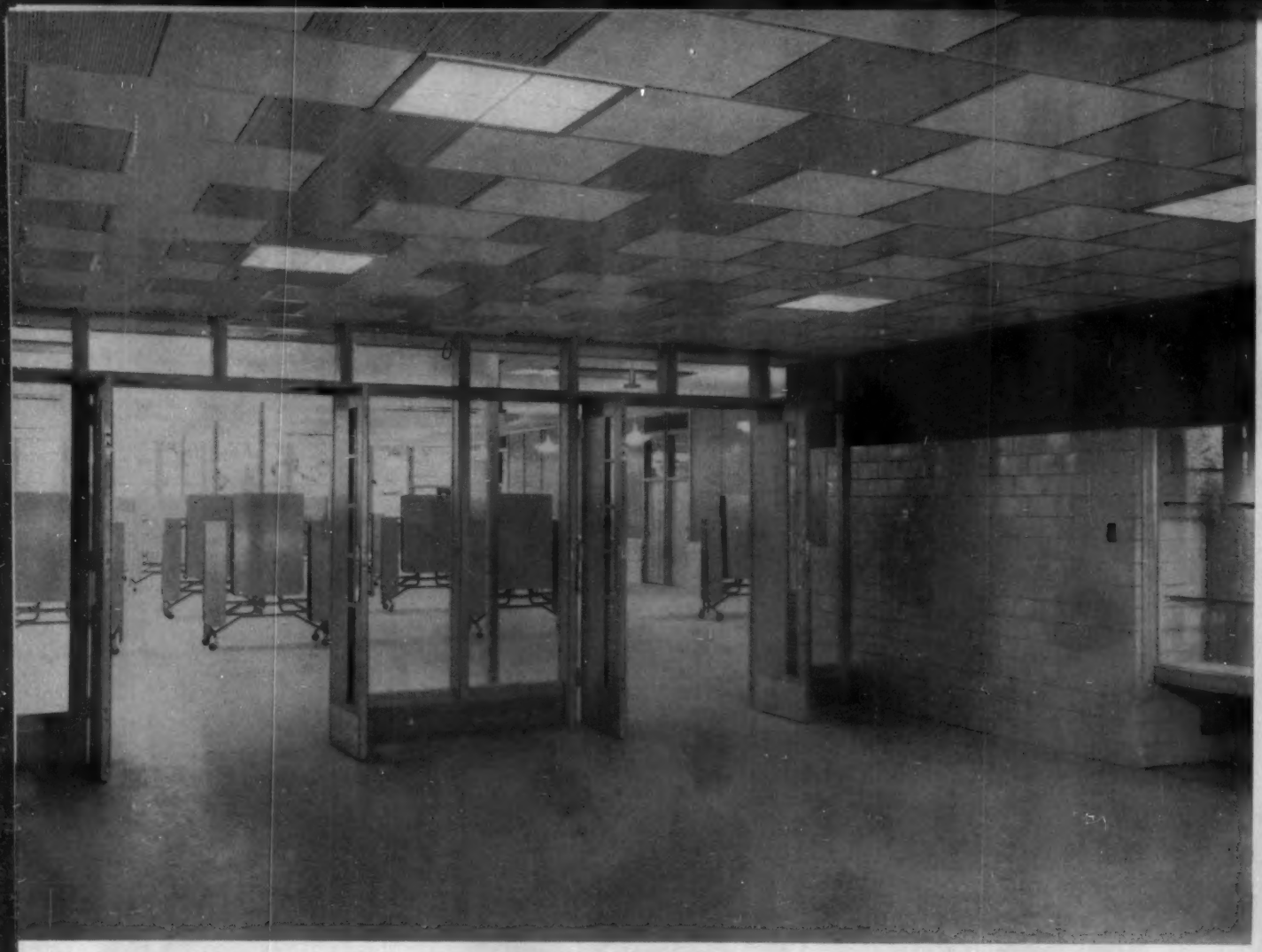
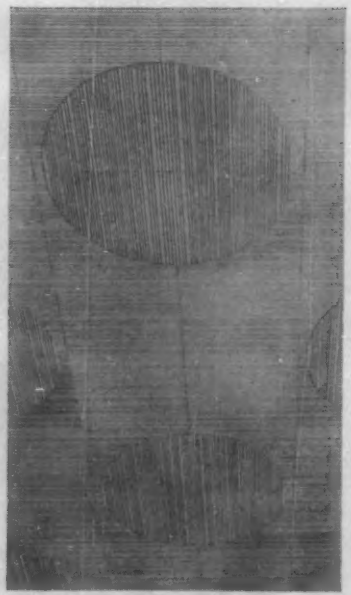


This distinctive ashlar-parquet ceiling design was achieved with 24" x 24" Armstrong Crestone installed in a four-sides-exposed grid system. Dumbarton Junior High School, Towson, Maryland.

Registered trade-mark of the Champion Paper and Fibre Company, one of many distinctive custom designs possible with Armstrong Crestone.

Design 021



Design 022

For the complete booklet, "Design Concepts in Acoustical Ceilings," write the Armstrong Cork Company, 4203 Rock Street, Lancaster, Pa.

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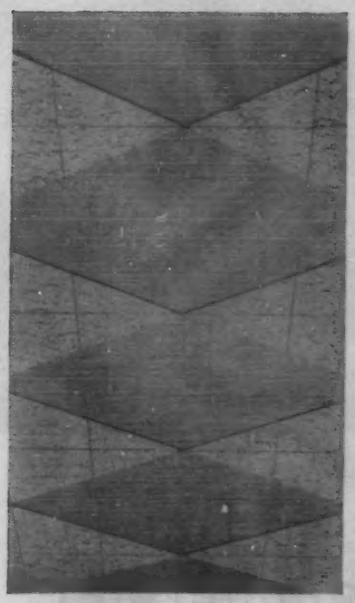
Mineral-fiber Crestone is rated Class A (Incombustible) under Federal Specification SS-A-118b. It carries the Underwriters' Label. Finished with a washable white paint, Crestone can be easily cleaned and, when necessary, can be repainted without appreciably affecting its sound-absorbing qualities.

For full details and samples, call your nearest Armstrong District Office, your Armstrong Acoustical Contractor, or write the Armstrong Cork Company, 4203 Rock Street, Lancaster, Pennsylvania.



Design 028
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Technical Roundup

United States, Britain and Canada Agree on Unified Drafting Practices

Early last fall, representatives of the national standards bodies of the United States, the United Kingdom and Canada (the so-called ABC countries) met in Toronto at a five-day conference on the unification of drafting practices in the three countries. They went home in a rare state of international accord.

According to conference chairman Lt Col A. N. Huddleston, the agreement reached represented "the successful culmination of a project which has been patiently pursued for twelve years." The recommendations of the delegates, when incorporated into the national standards of their respective countries, are expected to eliminate differences in their drafting practices, and to permit drawings prepared according to the standards of one country to be readily understood and used in either of the others. The areas in which specific changes are to be recommended include size and format, projection, line convention, sections, screw thread representation, and various miscellaneous practices.

NBS Study Measures Crack Widths in Reinforced Concrete

Recent evidence uncovered at the National Bureau of Standards indicates that cracks in reinforced concrete are narrower near the surface of the reinforcing bar than at the outside concrete surface, thus exposing less of the bar to corrosion than was heretofore believed. The crack width measurements, made by D. Watstein and R. G. Mathey of the Bureau's structural engineering laboratory, are expected to be of value to the structural engineer in making better use of existing design data—with consequent savings in materials. They were made on tensile bond specimens designed to simulate a portion of the tensile zone of a reinforced concrete beam between two successive cracks. To provide the engineer with the necessary design information, measurements taken when a tensile force was applied were broken down into a ratio between the crack width at the surface of the reinforcing bar and that at the exterior surface of the concrete, and plotted against the applied stress. The reduction of crack width near the surface of the reinforcing steel was observed only for deformed bars; no noticeable reduction of crack width was observed with round smooth bars.

more roundup on page 256

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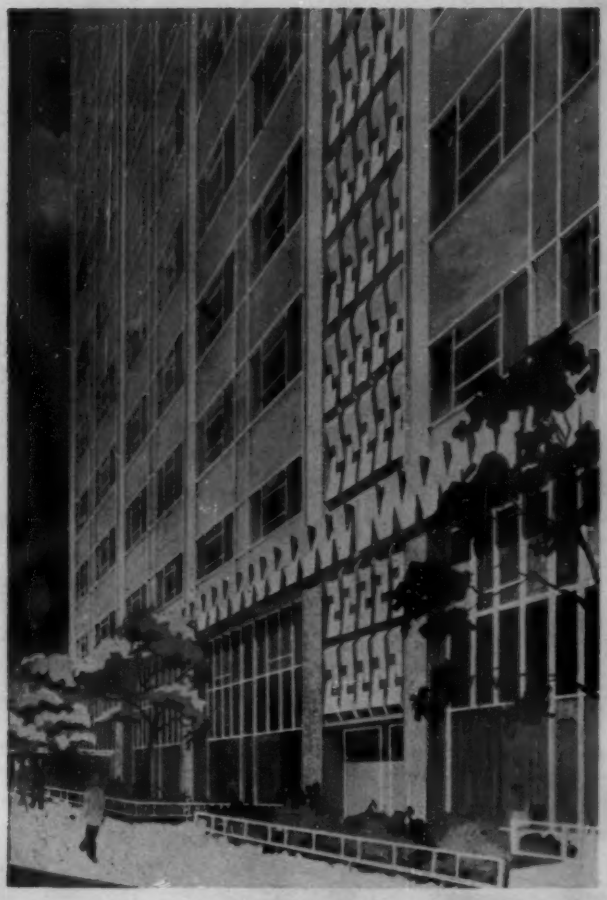

NEWS ABOUT SEAPORCEL ARCHITECTURAL PORCELAIN

Rogers & Butler, New York architects, have used a unique design approach for this $4,500,000 addition to the Lenox Hill Hospital, New York City. They have incorporated extra-large Seaporclad porcelain enamel panels contrasted dramatically with new, custom-made, Seaporcel formed panels exhibiting in full third dimension a prismatic configuration.

Used for the first time are two-tone, dusty pink laminated-insulated panels, 7 ft. x 10 ft. fitted into 10 ft. x 13 ft. modular aluminum frames. The sandwich construction includes an insulating core providing complete incombustibility, insulation and sound deadening qualities. Contrasting with the flat-surface curtain wall facade are the new Seaporcel formed panels, used as a vertical accent and as a decorative band course above the second floor.

Said Rogers & Butler of the two new panels: "This development represents a forerunner in the search by contemporary architects to achieve greater interest, variety, color and texture in new buildings designed for today's needs. They offer a means to practical economy, since they bring larger, prefabricated components, with factory-assembly precision to the building site."

For more information about Seaporcel and Seaporclad write for brochure 23.

Lenox Hill Hospital—$4,500,000 addition—located at Park Avenue and 77th Street, New York City.

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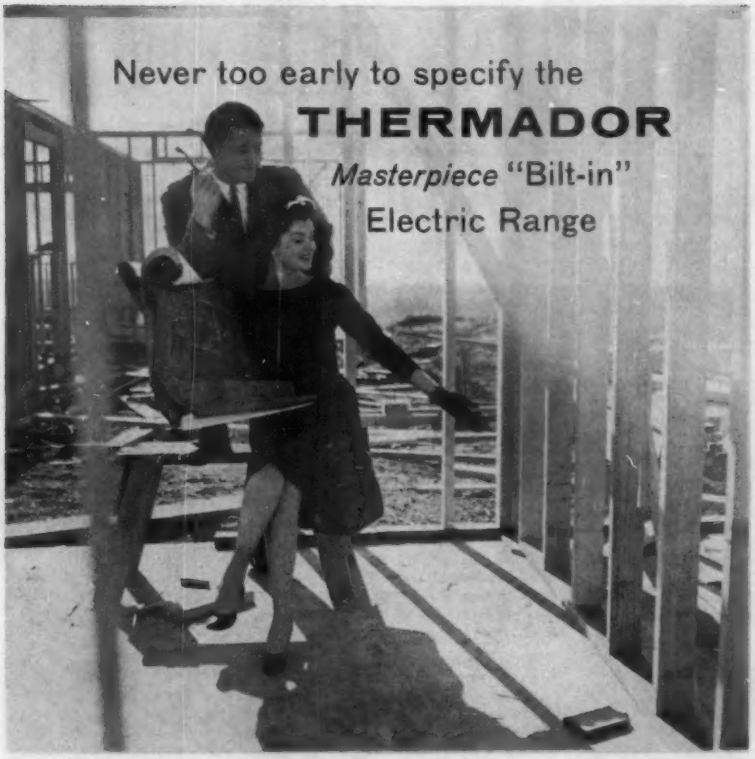

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Technical Roundup

Nickel-Copper Alloy Roof Promises Long, Maintenance-Free Life

For the past ten years, crimped sheets of *Monel* nickel-copper alloy have been gradually replacing the old metal roofs of New York's Metropolitan Museum of Art. According to Superintendent of the Building, Robert M. Chapman, the installation has since required virtually no sheet metal or roofing accessory maintenance.

Part of its success can be attributed to the basic properties of the metal; part is due to the crimping process. The weather resistance of the alloy is indicated by the fact that for ten years it has withstood the salt, smoke, soot, rain, winds, industrial fumes and temperature extremes characteristic of New York air. A property of similar significance for roofing applications is its low coefficient of linear expansion—close to those of both steel and concrete. In addition *Monel* has enough tensile strength, toughness and ductility to take the fabrication stresses imposed by the crimping process, which produces about five .031 in. deep "crimps" per inch. Because the crimping makes the sheet itself, in effect, one continuous expansion joint, it reduces the need for conventional expansion joints, thus cutting installation and maintenance costs. It virtually eliminates seam failure and lessens overall maintenance by reducing the number of seams required. And it adds enough rigidity to permit the use of lighter-weight sheets which can be more easily fabricated and installed.

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No matter what the specifications of your heating or air-conditioning duct work, Weirkote will meet them as only a quality zinc-coated steel can. No other metal can match it.

Take, for instance, the strength and rigidity of Weirkote. It's a natural for spanning large areas without bending or buckling and with a minimum use of supporting brackets. Consider, too, its fire protection. Its higher melting point makes it provably safer than competing metals. Since ducts sometimes carry volatile matter with a low flash point, this protection can be vital.

Important, too, is Weirkote's economy. Made by the continuous process which integrates zinc and steel, Weirkote can be worked to the very limits of the steel itself without flaking or peeling. Permanent corrosion resistance is provided in every seam and surface. Which, of course, all adds up to longer, maintenance-free life for Weirkote ducts. And its ease of installation cuts cost still further.

After a Weirkote duct installation is in and operating, your clients will find still another reason to be glad you specified Weirkote—it's quiet. Noisy creaks and cracks of expansion and contraction are minimized. With all these advantages plus economy, you just can't go wrong with Weirkote.

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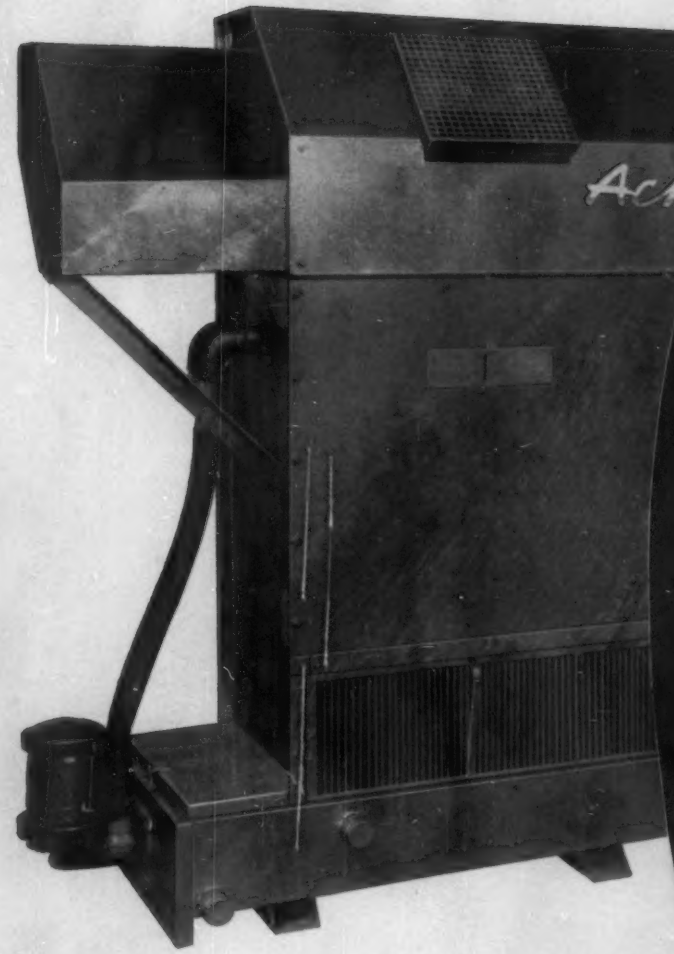

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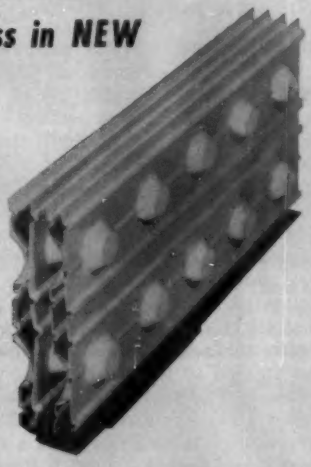
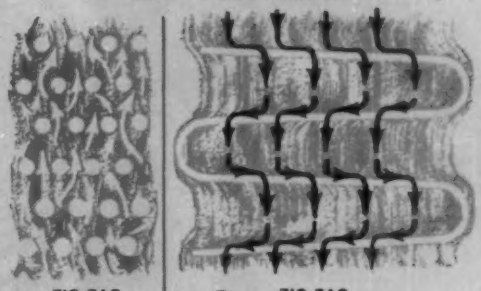
1 NEW Plastic Pak weighs 90% less in NEW FLOW-MIZER Cooling Towers!



The new all-plastic Acme-Pak offers further proof of Acme's progress in cooling tower design. Where a steel pak would weigh 2300 lbs. (as in the 100-ton tower), the Acme-Pak now weighs 180 lbs! This means less weight on roofs, easier installation, lower freight costs.

What's more, this remarkable new pak cannot rot like wood nor rust like metal. Water deposits cling less, are easily washed off. The new Acme-Pak cuts tower costs two ways: lower installed cost, lower maintenance cost.

2 Zig-Zag Coil Spacing means Greater Capacity, Less HP in NEW FLOW-MIZER Evaps.



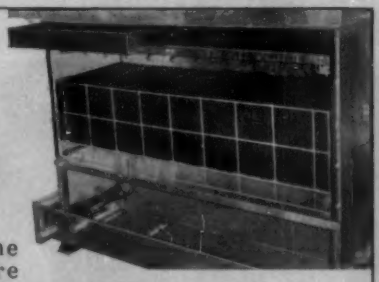
1 ZIG-ZAG CROSS-SECTIONAL SPACING

2 ZIG-ZAG LONGITUDINAL PITCH

Acme's zig-zag spacing improves coil efficiency in two ways. First by staggering the tubes cross-sectionally, both air and spray water are forced to travel a longer zig-zag path through the coil effecting greater turbulence and better heat transfer.

Secondly, Acme coils are pitched to form a continuous zig-zag slope longitudinally. This keeps the falling spray water in longer contact with the tubes, also allows the condensed refrigerant to drain more rapidly. The result is more efficient evaporation . . . which means greater capacity in less space with less blower horsepower required.

5 Full access to coils or pak

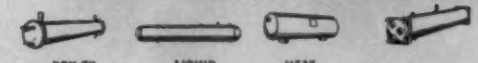


The new Acme Flow-Mizers are designed for full accessibility . . . fast, easy maintenance. In addition to sliding inspection doors, full-width panels are readily removed for convenient servicing of spray nozzles, eliminators, coil or pak. "File-drawer" pak and eliminators (see above) slide out for easy cleaning.

6 Balance where it counts

The complete blower assembly of an Acme cooling tower or evaporative condenser is electronically balanced *after* final assembly. Perfect balance is attained for quiet smooth-running operation under all conditions, less wear on blower shaft bearings, longer trouble-free service.

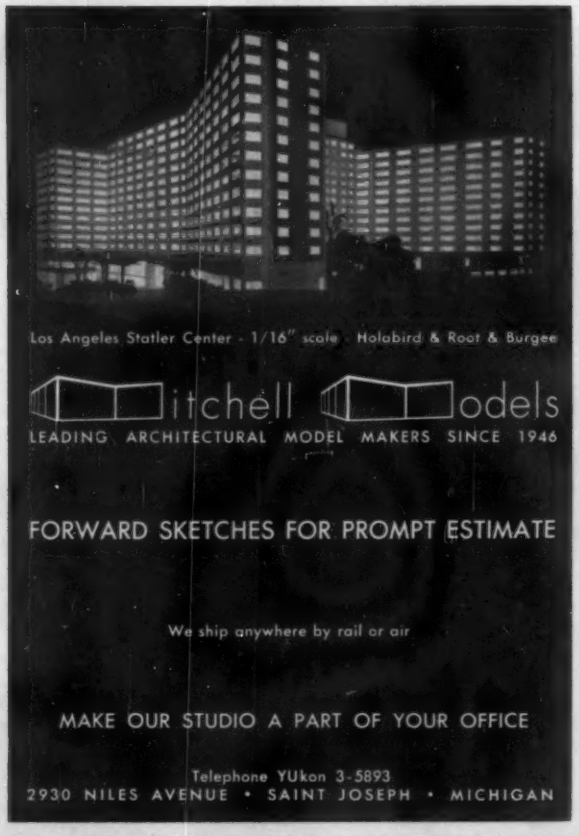
send coupon attached to your letterhead . . .



DRY-EX LIQUID CHILLERS | LIQUID RECEIVERS | HEAT EXCHANGERS | CONDENSERS

OK: Send me details:

- ☐ **New Flow-Mizer Evaporator Condensers,** thru 200 tons
- ☐ **New Flow-Mizer Cooling Towers,** 20 thru 175 tons
- ☐ **New Flow-Cold Cooling Towers,** 3 thru 20 tons


Los Angeles Statler Center - 1/16" scale - Holabird & Root & Burgee
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LEADING ARCHITECTURAL MODEL MAKERS SINCE 1946
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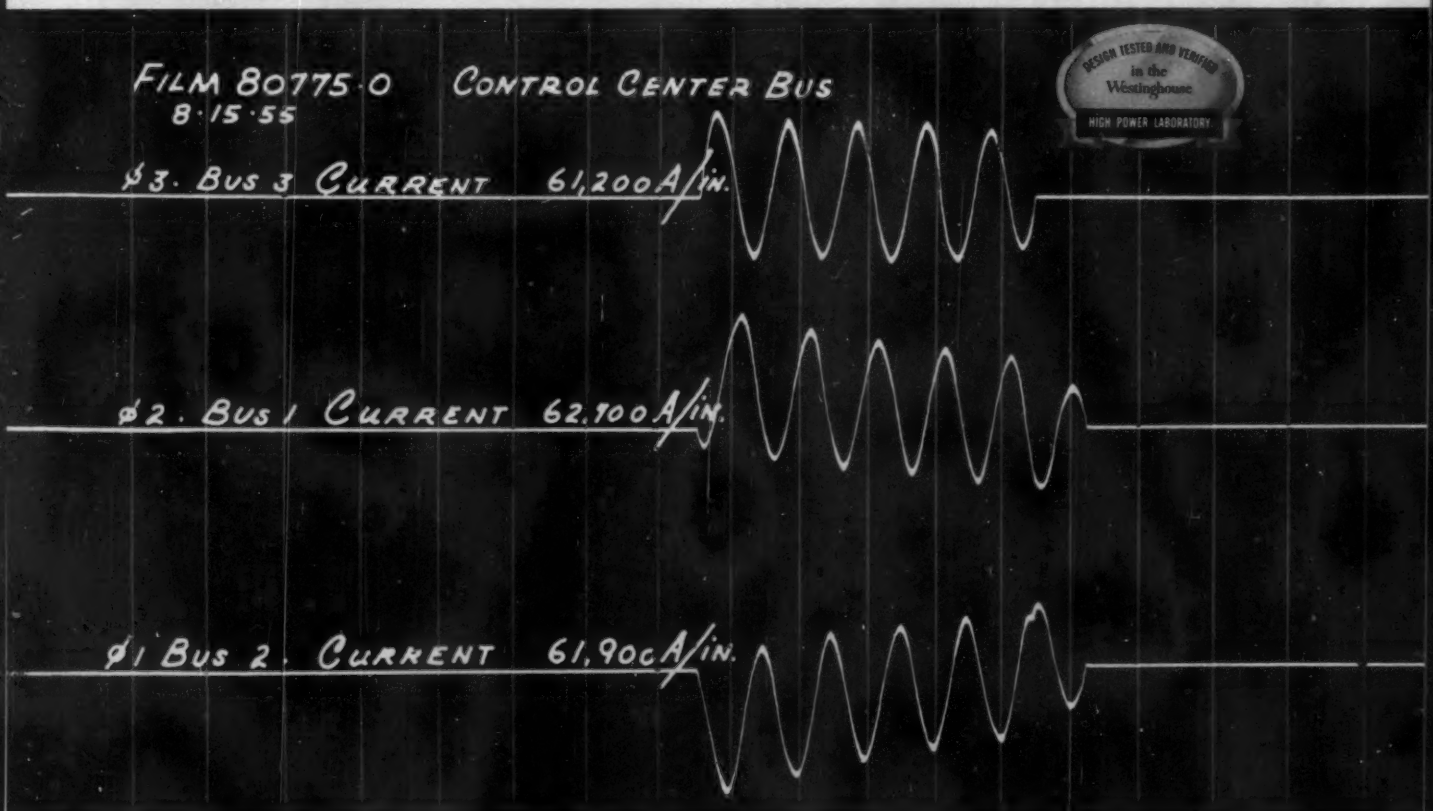
Product Reports

continued from page 231

Pennsylvania Industrial Plant First Aluminum-Clad Building to Receive New Weather Resistant Coating

The two-stage construction of a new plant for the American Sterilizer Company of Erie, Penn., pointed up the need for effective protection of its aluminum-clad walls. By the time the second section of the building was completed in 1956, the walls built three years earlier were already showing the effects of weathering, and the builder began a search for a coating that would preserve the appearance of the new metal walls. Accordingly a series of tests were begun using a then newly-developed butyrate lacquer on sample wall panels which had a southern exposure and were subject to attack by dust, fumes and contaminated air from the nearby plant foundry. After the most effective method of cleaning and restoring the aluminum surface had been determined, the butyrate lacquer was applied to the panels and subjected to nine months' exposure. The tests showed it to be non-yellowing under constant sun exposure, and to have completely prevented oxidation of the surfaces. As a result the entire building was cleaned and coated with *Pyroxcote* 26-105, a butyrate lacquer formulation. The wall surfaces were first prepared by brushing them with a chemical cleaner and brightener which removed dirt and grease, and dissolved the gray-white oxide film. They were then treated with a passivating agent which prevented the rapid recurrence of oxidation. Finally a single coat of lacquer was sprayed onto the cleaned and brightened aluminum to achieve a coating about 0.3 mils thick. The butyrate component of the lacquer was developed by Eastman Chemical Products of


FILM 80775-O
8-15-55
CONTROL CENTER BUS
DESIGN TESTED AND VERIFIED in the Westinghouse HIGH POWER LABORATORY
φ3. BUS 3 CURRENT 61,200A/IN.
φ2. BUS 1 CURRENT 62,100A/IN.
φ1 BUS 2. CURRENT 61,900A/IN.

Kingsport, Tennessee; the coating itself was supplied by *Pyroxylin Products, Inc., 4851 S. St. Louis Ave., Chicago 32, Ill.*

more products on page 264

Typical wall section above was used to test methods of cleaning metal surfaces and applying protective coating. Method finally adopted was tested on panel at extreme right. Close-ups below show condition of original siding before and after lacquer application.

"THE SAFE WAY OUT!"

● Since originating the fire and panic exit device in 1908, Von Duprin has consistently pioneered advances in design, use of new materials and a line of auxiliary items to provide "safe exit" for any building, any condition.

VONNEGUT HARDWARE CO.
VON DUPRIN DIVISION • INDIANAPOLIS, INDIANA

Westinghouse CONTROL CENTER design tested at 25,000 amperes to insure safety for personnel and equipment

At the Westinghouse High Power Laboratory, the new Westinghouse Control Center design has been thoroughly tested under maximum fault conditions with no damage to equipment . . . conclusively proving it industry's safest control center.

With complete interchangeability between 9½-and 14-inch modular units, simplified installation and increased safety, Westinghouse Control Centers make possible the most compact, economical, centralized control systems.

For complete information on the Westinghouse Control Center, call your Westinghouse sales engineer, or write Westinghouse Electric Corporation, P.O. Box 868, 3 Gateway Center, Pittsburgh 30, Pa.

J-22102

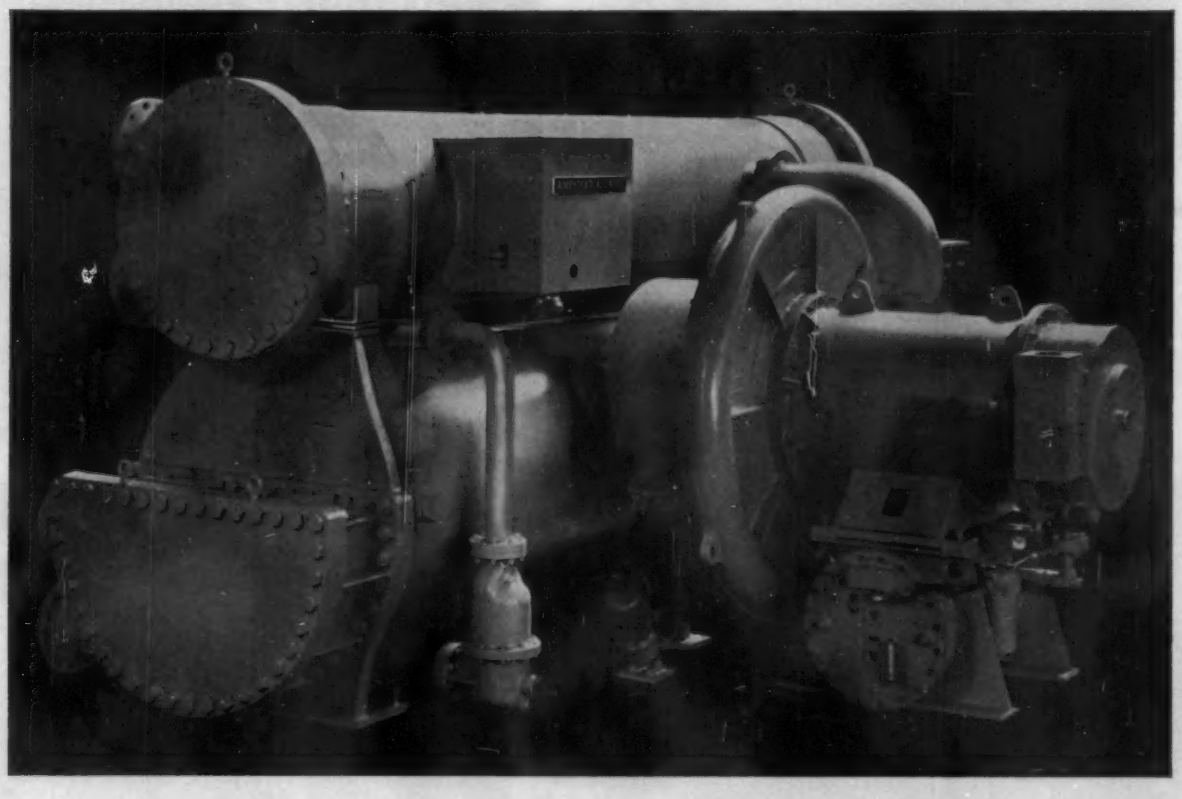
POWER-UP starts with CONTROL

YOU CAN BE SURE...IF IT'S Westinghouse

COMPLETE AIR CONDITIONING SYSTEM

American Blower offers air

CENTRIFUGAL REFRIGERATION MACHINES



American Blower Tonrac® maintains constant chilled water temperature . . . regardless of load. Its advanced single stage design and hermetic construction provide improved performance and quieter operation. TONRAC comes as a compact, self contained unit, easier and less costly to install with its single level construction.

You can pinpoint responsibility for equipment performance, delivery dates, user satisfaction on *any* air conditioning system you plan by using American Blower equipment . . . the *complete* line that's designed, engineered, and manufactured to work together.

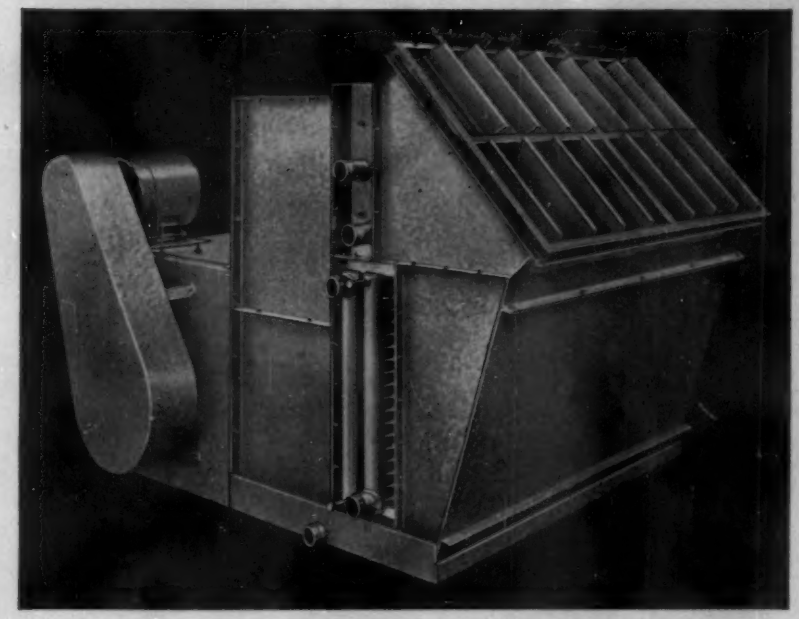
Remember, when you think in terms of American Blower, you think in terms of a manufacturing organization that supplies more of the vital components for air conditioning, refrigeration, heating, and ventilating, than any other in the world.

And 73 branch offices offer local product help or nationwide sales-service coordination. Call *your* American Blower man. In Canada: Canadian Sirocco products, Windsor, Ontario.

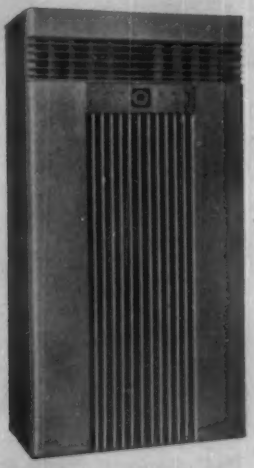
OR COMPONENT PART

conditioning equipment for any job!

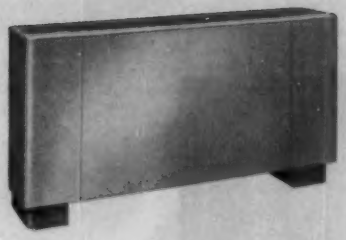
ALL COMPONENTS FOR ANY TYPE OF SYSTEM



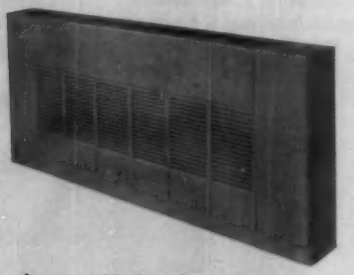
Type AB Multi-Zone Unit is in one arrangement for either horizontal or vertical air flow. A diffusion section is furnished between the fans and coils to distribute the air evenly over the entire face of the cooling and heating coils.



Packaged Air Conditioners — sizes from 3 to 20 tons; sound-insulated — a unit for every business! Air or water cooled models, for use with or without ductwork.



New Fancoil Units cool or heat individual rooms in multi-room structures. Operate on "flo-thru" principle. Save space — only 9¼" deep. Vertical or horizontal mountings.



Inductor Units for cooling or heating multi-room buildings. Can be connected in series. Mounted vertically or horizontally (without excessive casing depth). Wide range of sizes.

For further information, write: American-Standard,* American Blower Division, Detroit 32, Michigan

*American-Standard and Standards are trademarks of American Radiator & Standard Sanitary Corporation.

AMERICAN-Standard
AMERICAN BLOWER DIVISION

The Phoenix Towers, Phoenix, Arizona, demonstrates these several advantages in Miller sliding glass doors: 1. Heavy tubular sections allow complete freedom of design, and provide added strength to withstand abnormal wind loads. 2. Every aluminum frame is Alumilited for lasting beauty and resistance to elements. 3. Section (at right) shows how Miller double-seals vents on all four sides with Schlegel Certified woven pile (silicone treated). 4. Three complete lines in aluminum and steel provide design and cost latitude—for commercial, institutional and residential. 5. Distributors and dealers in most principal cities carry stock for immediate delivery. 6. Design assistance offered at no charge by Miller engineers. Write for dealer's name and free catalogs. Also see Sweet's Arch. File 16d/Mi.

View from one of the 60 cooperative apartments in Phoenix Towers.

Other large-scale Miller installations:

RENO, NEVADA	HOLIDAY HOTEL
LITTLE ROCK, ARK.	U. OF ARKANSAS WOMEN'S DORM.
PITTSBURG, PENNA.	WARWICK APARTMENTS
GARDEN GROVE, CALIF.	ALAMITOS INTERMEDIATE SCHOOL
CHICAGO, ILLINOIS	SCHUTZ OFFICE BUILDING
NEW ORLEANS, LA.	UPTOWN NEGRO HIGH SCHOOL

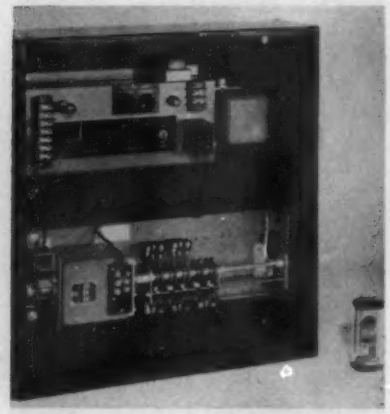
sliding glass doors by **Miller**

Frank B. Miller Mfg. Company, Inc., Dept. AR, 3216 Valhalla Drive, Burbank, California

Product Reports

Asbestos Core for Curtain Walls

Cell-Air-Core, a new type of core material for use in curtain wall panels, consists of an asbestos honeycomb impregnated and coated with a portland cement compound. Described as being superior to untreated asbestos cores in compressive strength, thermal-acoustical insulation, and resistance to moisture and combustion, it is made in thicknesses of from 1 to 4 in. The honeycomb core may be faced with a variety of skins for exterior and interior applications, and can be easily cut to allow conduits to run inside the panels themselves. When used to form outside panels, its cells are filled with vermiculite, which increases its insulation value and combustion resistance. *The Bettinger Corp., Waltham, Mass.*

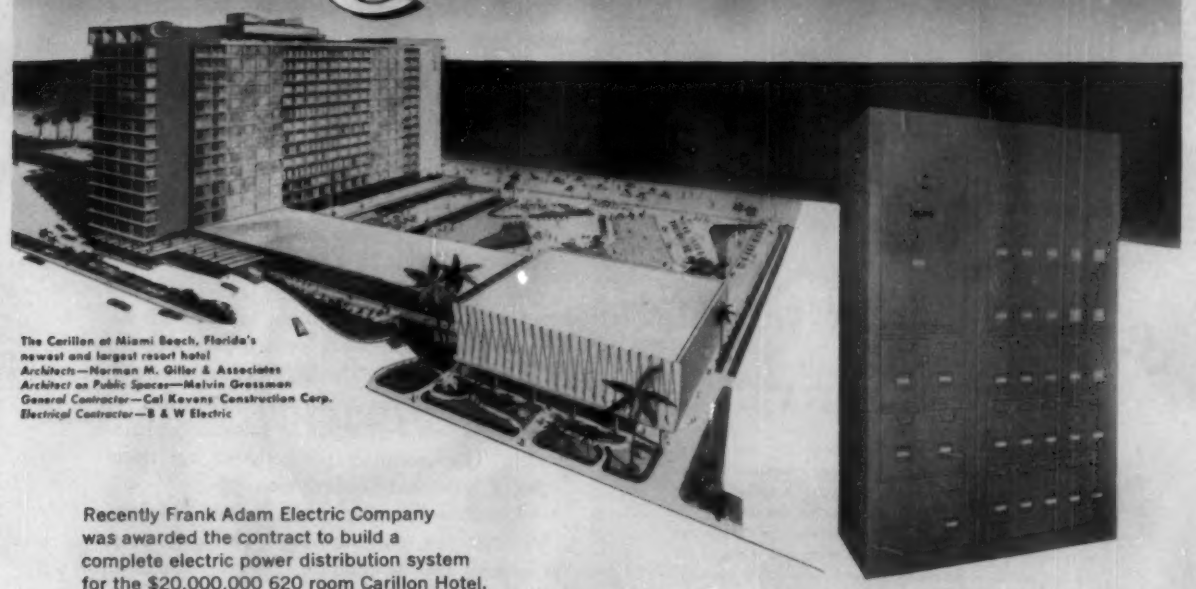


Indoor Lighting Control System

A new automatic indoor lighting control system is said to result in electric power savings of up to 80 per cent by preventing unnecessary use of artificial lighting. Known as *Light Saver Controlled Lighting*, the system automatically measures incoming daylight and turns artificial lighting on or off in proper amounts to maintain the desired illumination in work areas of office buildings, schools and factories. Heart of the system is the control panel shown above. The phototube at right—usually mounted outside the building—accurately measures the amount of light coming into a number of rooms in a particular area. Its signal operates a switching motor which increases or decreases lighting in three or more stages so that the adjustment goes virtually unnoticed by the occupants of the area. *Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave. So., Minneapolis 8, Minn.*

more products on page 270

FRANK ADAM builds COMPLETE ELECTRICAL DISTRIBUTION SYSTEM *for new* $20,000,000 CARILLON *hotel in record time!*



The Carillon at Miami Beach, Florida's newest and largest resort hotel
Architects—Norman M. Giller & Associates
Architect on Public Spaces—Melvin Grossman
General Contractor—Carl Kovens Construction Corp.
Electrical Contractor—B & W Electric

Recently Frank Adam Electric Company was awarded the contract to build a complete electric power distribution system for the $20,000,000 620 room Carillon Hotel, Florida's newest and largest resort hotel at Miami Beach.

Because the hotel was scheduled to open December 21, necessary equipment had to be designed and produced in record time.

Responding to the challenge Frank Adam built a distribution system that included two Ⓕ Klampswitchfuz switchboards—Klampswitchfuz power distribution panelboards, Powerplugin busduct and QP Quicklag P lighting panelboards to handle the hotel's heavy load concentration safely, efficiently and economically.

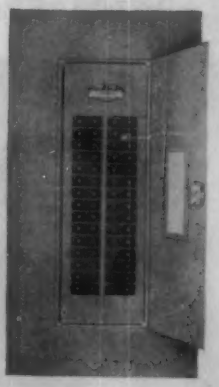
Recommendations of Frank Adam engineers were promptly accepted and six days after the final "go ahead" order the last of the equipment was shipped.

What Frank Adam engineering skill and technical "know how" did for the Carillon they can do for you. Let your nearest Ⓕ representative listed in Sweet's tell you how Frank Adam equipment can fit into your next big job.

Ⓕ **Klampswitchfuz Switchboard**
Features a hinged type, horsepower-rated operating switch that combines both disconnect switch and fuse protection into one unit. Ratings, 30 to 600 amperes, 250 volts AC or DC 2 and 3 poles.

Ⓕ **Powerplugin**
The modern system of distributing power from service entrance to machines and light. Ratings 225 to 1500 amps. 600 volts AC or less with Klampswitchfuz, Shutlbrak or Circuit Breaker plug-in devices.

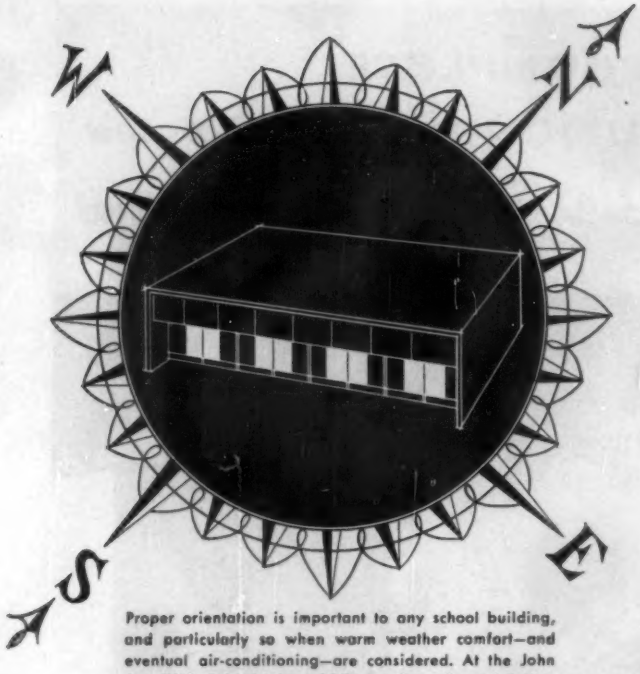
Ⓕ **Quicklag P Panelboard**
A plug-in type thermal-magnetic circuit breaker panelboard that provides safe, dependable, automatic circuit protection against overloads and short circuits. Breaker capacities are 10 to 50 ampere up to 42 poles.



FRANK ADAM

FRANK ADAM ELECTRIC COMPANY
BOX 357, MAIN P. O. • ST. LOUIS 3, MO.

makers of
busduct • panelboards • switchboards • service equipment
safety switches • load centers • Quikheter



Proper orientation is important to any school building, and particularly so when warm weather comfort—and eventual air-conditioning—are considered. At the John Jay High School, the middle portion of south-facing wall is 50% glass, 50% light-colored panels to reduce glare and solar gain. Continuous glass in upper portion admits a maximum of useful light to the ceiling. As warm weather approaches, the shadow of the darkening-glass screen, shown below, covers more and more of the window until—in May and June—it is entirely covered.

CLASSROOM AIR CONDITIONING, more and more is becoming a basic factor in school design. Architects everywhere are recognizing the trend in their structural considerations for school buildings.

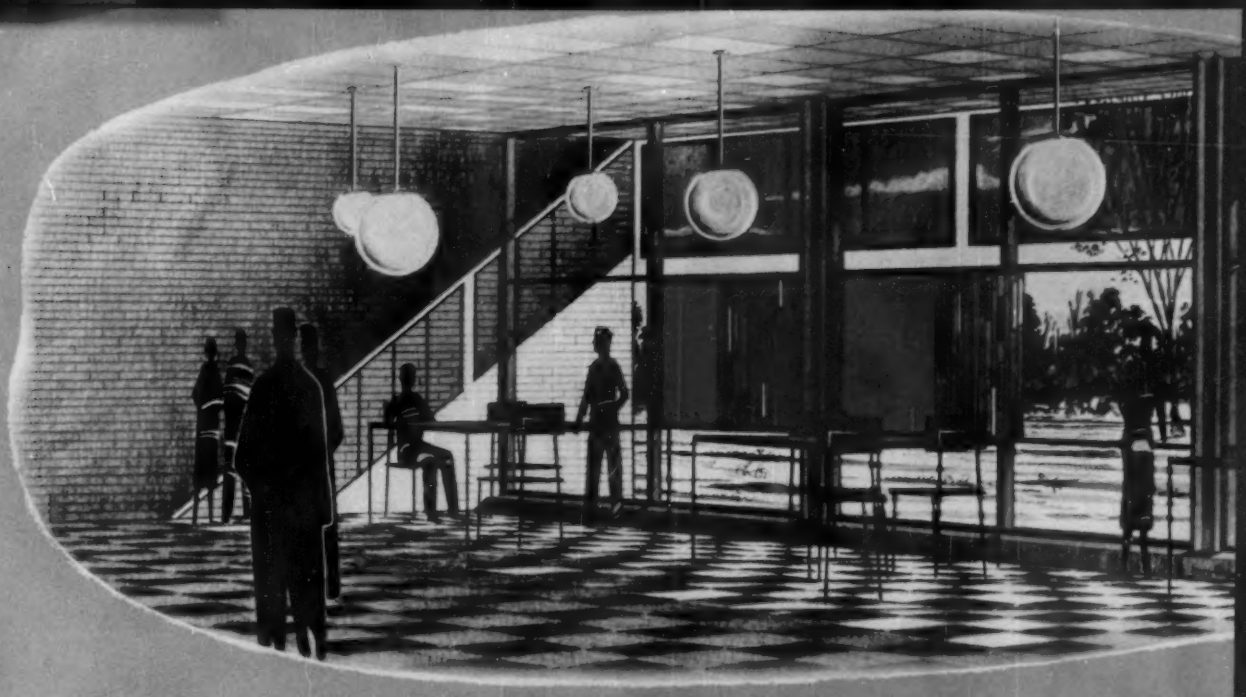
Educators, too, are thinking—talking—stressing air conditioning. They have found that classroom temperature, air movement and humidity have a direct bearing on learning and development. They realize that it is just as important that a child be comfortable in hot weather as it is in wintertime.

For these reasons, many schools are already air conditioned, or are planning for it in the future. Throughout the country, the need for air conditioning is being reflected again and again in basic school design. The building plan shown on these pages is an outstanding example.

Does the school you are planning include eventual air conditioning? Think it over. Chances are—it should.

Number two of a series . . .

The herman nelson file of



Stanley Sharp designs school window wall completely compatible with air conditioning

In the John Jay High School, Westchester County, New York, architects Ketchum, Gina and Sharp recognized window-wall as a key element in school design. Their approach was based on a conviction that control of solar heat is at least as important as admission of daylight to schoolrooms—and especially so in view of the likelihood of future conversion to air conditioning.

In the cafeteria, shown here, they developed a unique application of low-transmission glass, suspended vertically from the roof overhang—and a pattern of glazed and opaque panels in the window itself. Direct solar gain is greatly reduced in winter, completely eliminated in hot weather. Light distribution and visual comfort are actually improved.

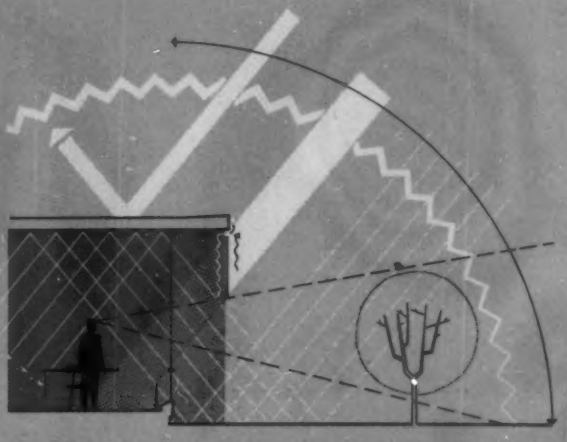
If, at any time, warm-weather cooling is added to the heating and ventilating functions of the mechanical equipment, the building will be far easier to cool than if it had continuous, unprotected windows. Meanwhile, the design is paying off in greater thermal and visual comfort from the start.

air conditioned school design

Schematic section through south-facing window-wall shows how low-transmission, glass screen blocks sun-heat, an important factor in economical air conditioning. Diffuse reflected light penetrates deep into the room.

The darkening-glass screen also reduces sky glare without obstructing the view. Location of the screen at a distance from the window shadows its middle portion. This allows absorbed heat to escape to the outdoor air on both sides of the glass, and admits reflected "ground light" to the *entire* ceiling area.

Stanley Sharp, who designed the building, feels that "*the architect's obligation is to create a pleasant environment for people to live with and in. Our task is to arrive at a fine balance of many independent factors . . .*" This window-wall treatment is an excellent example of his philosophy.



AAF

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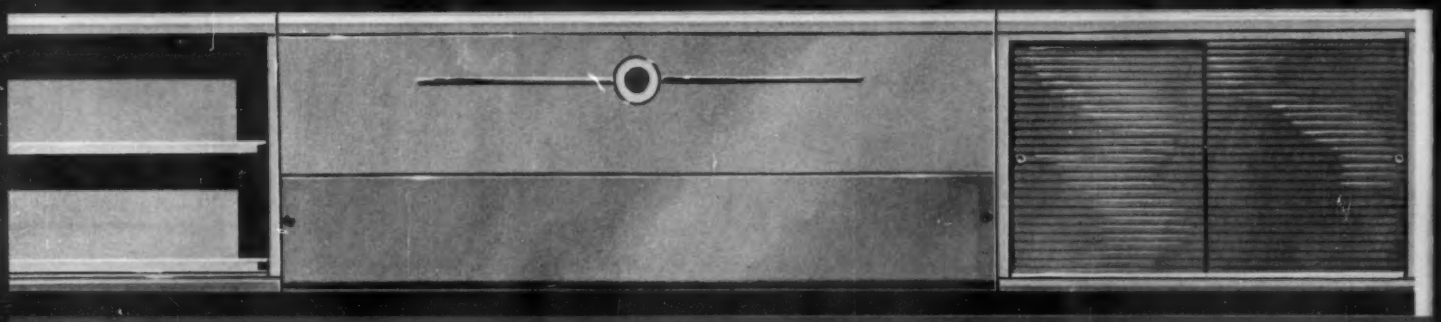
UNIT VENTILATOR

with optional air conditioning



already selected by more than 100 schools

Will the school you are planning *ever* need air conditioning? The answer is definitely—yes. Architects and educators agree on the importance of the proper learning environment. And only air conditioning can assure that your school will have it when the weather outside is warm.

That's why today—less than a year after its introduction—the HerNel-Cool II unit ventilator with optional air conditioning has been selected for use in more than 100 schools, which are either air conditioned now or have planned for it.

HerNel-Cool II is the first unit ventilator to offer optional air conditioning, as well as heating, ventilating and natural cooling (with outside air). Units can be installed so the school enjoys the usual benefits of Herman Nelson unit ventilation, including the famous DRAFT|STOP system—*the only type of draft control that is compatible with air conditioning.* Then at any time—immediately, or whenever the school budget will allow it—the mere addition of a chiller in the boiler room is all that is needed for complete hot weather air conditioning.

This can be accomplished without disruption of classroom activities . . . without expensive alteration and installation charges. The cost is far less than for separate heating and air conditioning systems—both for installation and operation.

Want information? Write today to Herman Nelson Unit Ventilator Products, **American Air Filter Company, Inc., 215 Central Ave., Louisville 8, Ky.**

AAF

herman nelson

UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating

JUST HOW MUCH DOES PROVISION FOR FUTURE CLASSROOM AIR CONDITIONING COST? The answer is: probably far less than you think—when you install HerNel-Cool II air conditioning unit ventilators. Actually, it costs only fifteen to twenty cents per square foot more than the cost of basic heating and ventilating equipment in average new construction—or between one and two percent of total building cost. Complete, immediate air conditioning is approximately fifty to fifty-five cents more.

By using Herman Nelson unit ventilators, schools have held heating and ventilating costs—including provision for future air-conditioning—to a total of less than $1.35 per square foot. Other schools have heating, ventilating and immediate air conditioning—for a total per square foot cost of less than $2.00! (And, in many cases traditional design concepts were used.) These are current costs, too! HerNel-Cool II unit ventilators have been available for little more than a year.

Look at the costs shown below. They are particularly interesting when you realize that they are truly representative—for Herman Nelson equipped schools in all parts of the country. Locations range from California to New York, from Wisconsin to Georgia.

TEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION ONLY

School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
A	$ 659,000	$15.33	$1.15	7.6
B	416,211	9.05	1.13	12.4
C	435,270	11.21	1.48	13.2
D	131,223	9.00	1.98	22.0
E	260,164	13.56	1.47	10.9
F	1,013,960	11.27	1.25	11.1
G	577,193	8.39	1.07	12.9
H	310,178	9.84	1.05	10.7
I	344,291	10.43	1.11	10.7
J	118,147	12.38	2.09	16.6
Average	$ 426,564	$11.05	$1.38	12.8

SEVEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS FUTURE AIR CONDITIONING

School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
K	$ 666,000	$15.49	$1.32	8.5
L	423,511	9.21	1.29	14.0
M	356,800	10.04	1.55	15.4
N	2,813,000	15.44	1.78	11.5
O	2,745,381	16.54	1.76	10.7
P	1,311,080	10.40	1.35	14.9
Q	300,000	15.63	1.72	11.0
Average	$1,259,385	$13.25	$1.57	12.3

Avg. add. cost provisions for future air conditioning..0.19

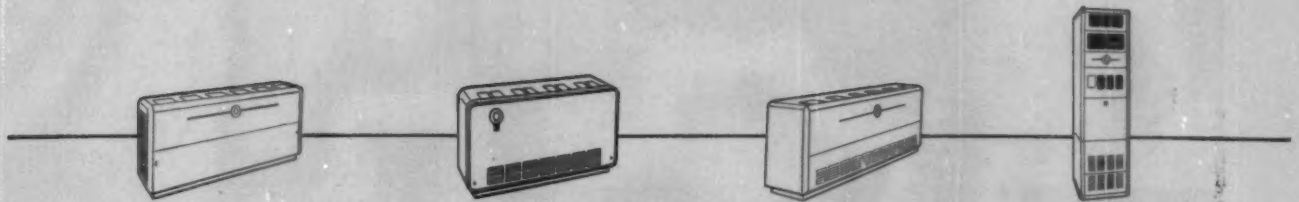
FOUR SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS COMPLETE AIR CONDITIONING

School	Total Cost	Total Cost Per Sq. Ft.	Heating Ventilating & Air Conditioning Cost Per Sq. Ft.	Per Cent of Total Cost
R	$690,000	$16.04	$1.88	11.7
S	371,100	10.44	1.95	18.7
T	405,463	14.38	2.41	16.8
U	360,700	13.11	2.22	16.9
Average	$457,066	$13.49	$2.12	16.0

Average added cost for complete air conditioning.....0.73

Complete cost studies—for schools employing immediate air conditioning as well as for those which are planning for its installation later—are available upon request.

Get all the facts now. Classroom air conditioning—immediate or eventual—is being included in more and more school planning. You'll want to consider it in yours. Write today to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., 215 Central Avenue, Louisville 8, Kentucky.



Hot water or steam unit ventilators

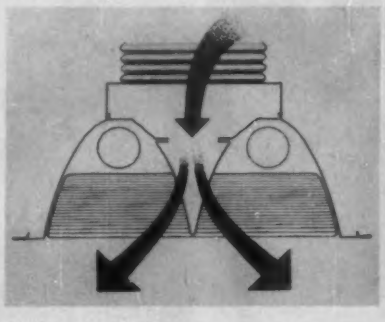
Amervent unit ventilators

Electric unit ventilators

UniVent gas-fired unit ventilators

Combination Light-Air Diffuser

Air diffusion and fluorescent illumination have been integrated in a new troffer which provides high comfort light and air conditioning from a single fixture. Designed for installation in any suspended ceiling, the *Paraflo* troffers come in 1 by 4 and 1 by 8 ft models for rapid-start and slimline lamps. Conditioned air is diffused throughout the length of a center parabolic louver of perforated metal, which also helps to provide controlled brightness. According to the manufacturer, the units deliver up to 150 cfm, with low pressure drop and correspondingly low noise levels. Primary advantage is the flexibility of the system in which every light source is a potential air diffuser. The units were developed jointly by the Air Distribution Division of the Barber-Colman Co. and *Day-Brite Lighting, Inc., 16 N. 9th St., St. Louis, Mo.*

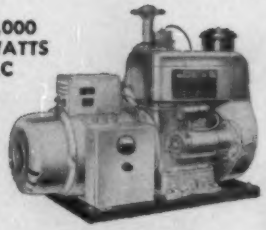


Compact Heating and Steam Boiler

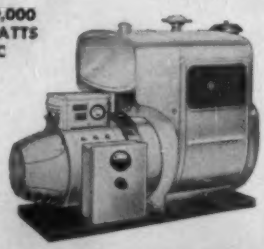
The *Thermodyne*, a new automatic heating and steam boiler which requires less than a third of the floor space needed for conventional boilers of equal capacity, is said to be the most powerful and economical unit for its size ever built. According to its manufacturer, test units now in service have reduced fuel operating costs by a third and maintenance upkeep by 50 per cent. Its efficiency is attributed to a vertical arrangement of the boiler tubes which provides exceptionally rapid water circulation and high heat transfer. In addition, this "vertical bent-tube" concept has permitted design of a new "blowdown" system to assure rapid and easy removal of collected waste solids. Fourteen variations of three basic units, ranging from 5 to 1000 hp, are available for operation on gas, oil or electricity. All can be used for either low or high pressure and low or high temperature water circulation. *Hercules Power Equipment Co., P. O. Box 49724, Barrington Sta., Los Angeles, Calif.*

more products on page 274

Low-cost, Dependable Power–Stand-by, Primary, Portable



OTHER MODELS FROM 500 WATTS to 100 KW—all voltages and phases.



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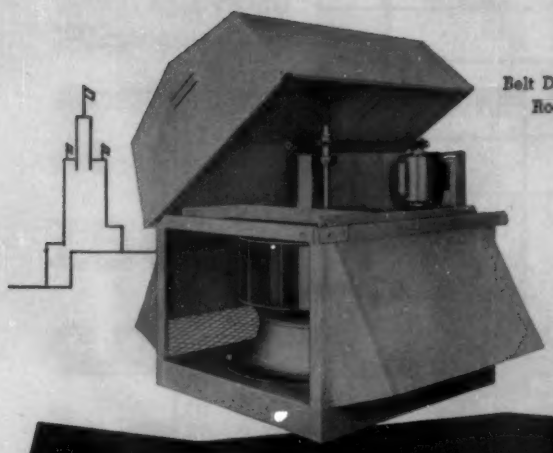
Power failures always occur when you least expect them. When a WINPOWER Plant is on the job, it takes over instantly through automatic line transfer controls when regular power fails. No interruption to lighting, heating, refrigeration, elevator operation or other electrical services.

Get the facts about WINPOWER LOW COST STAND-BY GENERATOR PLANTS without cost or obligation. Attach this ad to your letterhead and mail today for illustrated literature and complete information.

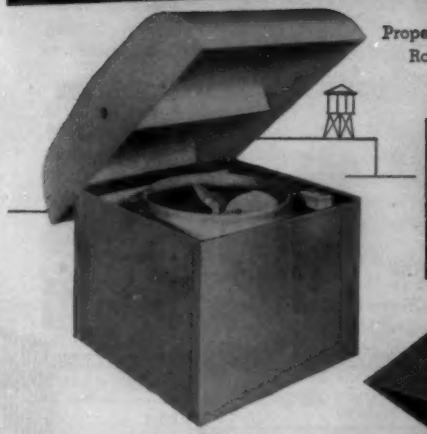
WINPOWER MFG. CO., Dept. G-63, NEWTON, IOWA



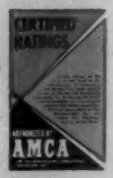
Belt Drive Centrifugal
Roof Ventilator

Recommended for their high quality, ease of installation, low maintenance cost, trouble-free operation, space-saving features, and blower-like performance.

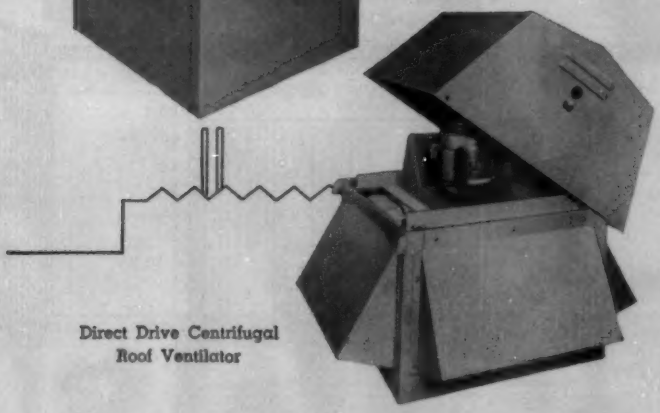
Peerless Electric Roof Ventilators . . .



Propeller-Type Power
Roof Ventilator



Peerless Electric Roof Ventilators offer engineers, architects, contractors and users AMCA rated units that embody sturdiness, high performance ratings, and low noise levels. They are particularly suited for public buildings, industrial plants, hospitals, churches, schools, and other similar applications.



Direct Drive Centrifugal
Roof Ventilator

Sizes range from 12" to 60" wheels; 640 to 45,000 c.f.m., depending upon the unit selected. Peerless Electric Roof Ventilators are built of 16 gage steel, or heavier, to last the life of the building. They fit all standard curb sizes. Matching wheel cones accurately fit venturi inlet for quieter operation . . . smoother air movement.

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A COMPLETE LINE OF AIR MOVING EQUIPMENT

Charter Member of the Air Moving and Conditioning Association, Inc. (AMCA)

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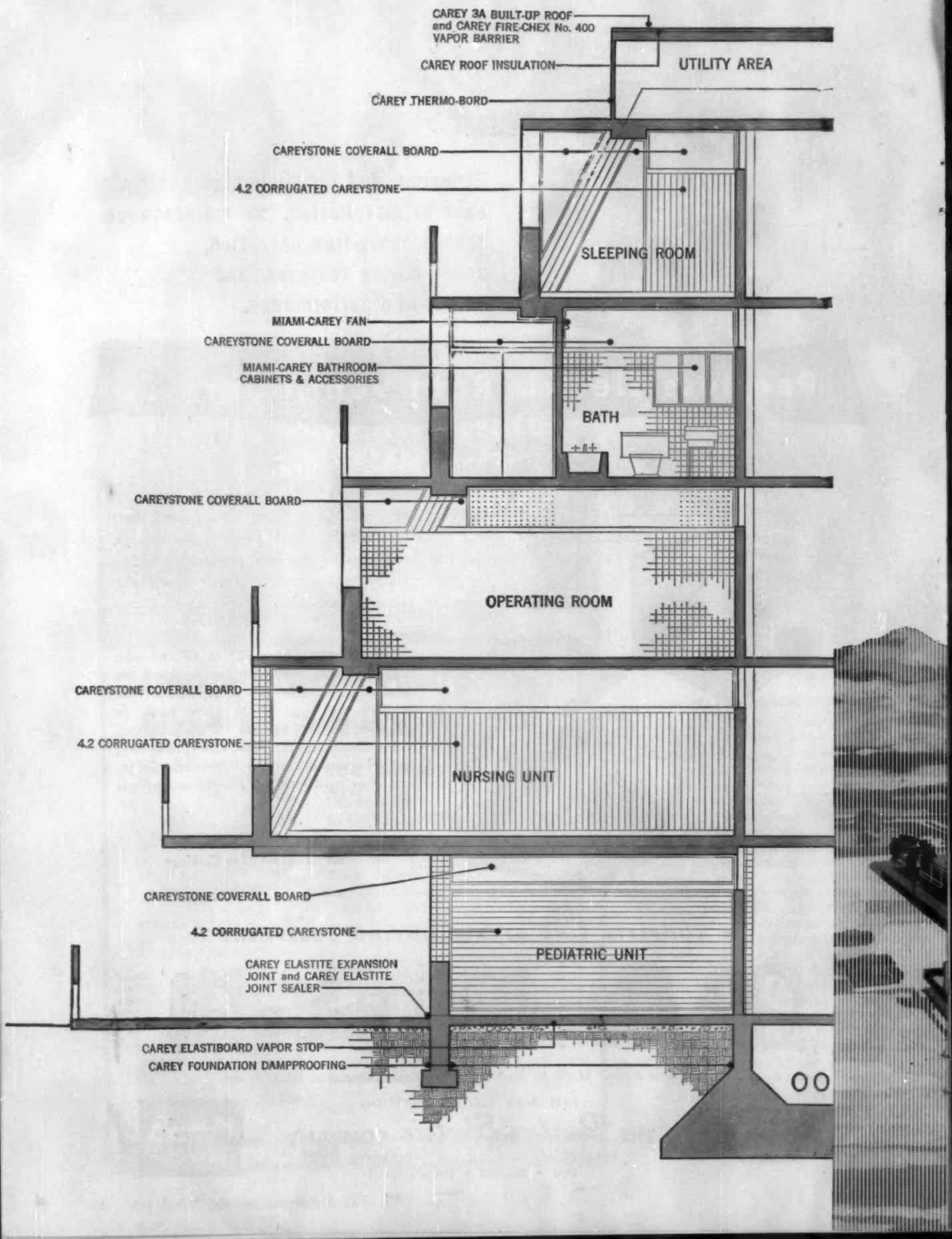
CAREY 3A BUILT-UP ROOF and CAREY FIRE-CHEX No. 400 VAPOR BARRIER
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CAREYSTONE COVERALL BOARD
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CAREY FOUNDATION DAMPPROOFING

Shaughnessy, Bower & Grimaldi, A.I.A. design a 150-bed community hospital

During 1957, the value of construction-contracts* for hospital buildings in the U.S. reached an all-time high. In fact, the percentage gain in hospital building over 1956 was greater than any other commercial or institutional building type.

In their design study, Shaughnessy, Bower & Grimaldi have given today's community hospital a bright, new personality. Maximum use of natural lighting, the inclusion of exterior walkways and open courts, a unique solution to traffic flow and parking—all have helped replace the typical "assembly line" atmosphere with new-found comfort and convenience.

We believe you'll find these design ideas both practical and appealing. Plan and detail sheets showing the wide variety of Carey products that could be used in this 150-bed hospital are also available. Just clip and mail the coupon.

Source: F.W. Dodge Corp.

Carey®

BETTER PRODUCTS FOR BUILDING SINCE 1873

THE PHILIP CAREY MFG. COMPANY, LOCKLAND, CINCINNATI 15, OHIO, DEPT. AR-358

Please send me plan and detail sheets on your hospital design study.

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Thin-Bed Cement Setting Compound

With the addition of water, *Crest Tile-Set* is transformed from a dry pre-mixed powder to a thin-bed portland cement compound which can be used for the dry installation of real clay tile, ceramic and glass mosaics, marble, terrazzo and similar materials. Available in either natural gray or white, the material is applied only ⅛ in. thick. Its principal advantages are the elimination of a number of steps in tile installation; its ability to bond directly to dry surfaces—including brick, gypsum wallboard, old plaster and dry haydite block; and the reduction of wall weight due to the smaller amount of material needed for the thin-set installation. *Kaiser Manufacturing, Inc., 2,000 Harrington St., Houston, Texas*

Foam-Backed Aluminum Siding

Bak-R-Foam, a new aluminum lap siding produced in nine baked enamel colors, features a bonded backing of *Dylite* expanded plastic foam. The ⅜ in. thickness of foam is said to create a highly efficient insulating barrier, as well as a sound-deadening acoustical cushion. It adds rigidity without weight, permitting one-man installation of the 10 ft lengths of siding; and, because it is water-resistant, it helps to dissipate moisture dispersed through drip holes along the bottom edge of the panels. *Siding Div., Alsco, Inc., 225 South Forge St., Akron 8, Ohio*

In St. Louis it's Halsey Taylor®

Masonic Home—Architects: Kenneth E. Wischmeyer, St. Louis
Plumbing Contractor—Phil Miller Plbg. & Htg. Co., Florissant, Mo.

Stainless steel top coolers, shown, were specified

Bishop DuBourg High School—Architects: Murphy & Mackey
Plumbing Contractor— J. Sheehan Plbg. Co.

Porcelain top coolers, shown, were specified

In St. Louis, as in all of the nation's metropolitan centers, Halsey Taylor is the practical specification for drinking-water equipment. Whether it's a skyscraper or an institution, a school or a church, building authorities know they can rely on the unfailing health-safety and everyday dependability of Halsey Taylor fixtures. Find out how Halsey Taylor can best meet your building program.

The Halsey W. Taylor Co., Warren, Ohio

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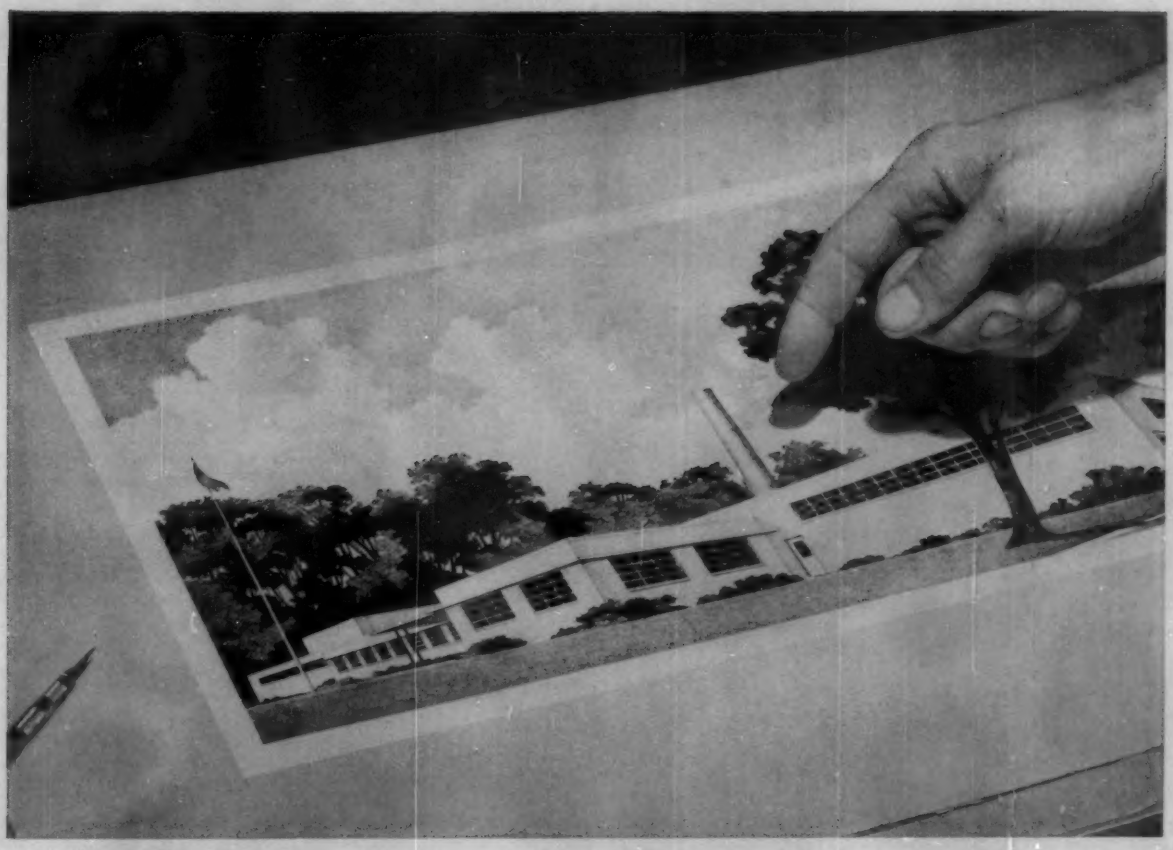
fountains · coolers by Halsey Taylor®

101

Fluorescent Lighting Standard

Circa-Lite, a new fluorescent luminaire for outdoor lighting, makes it possible to vary output from 2500 to 20,000 lumens to meet various lighting requirements. As many as eight standard 40 watt circular fluorescent lamps can be installed on each standard by simply plugging the "modules" into each other. All parts are fabricated from aluminum, including the standards, which are high-strength aluminum extrusions available in mounting height up to 20 ft. Three base types are offered, one of which is hinged so that the luminaire may be serviced from the ground. *The Kenworth Co., Winsted 1, Minn.*

more products on page 278



"Now we can get rid of that stack"

New Petro FORCED DRAFT burner for smaller boilers (OIL, GAS OR COMBINATION GAS-OIL)

This advanced Petro forced-draft burner is as compactly built and service-free as your home oil burner; yet it delivers some surprising extra values.

First, built into it is a complete combustion system, with forced draft air supply, fuel systems and prewired integral control panel—all assembled and tested at the factory.

Second, it eliminates the need for a high stack, yet requires no induced draft fan.

Third, a burner head of new design cures the old problem of flame pulsation, in both gas and oil firing—in either natural draft or pressurized boilers.

Finally, it is available for either light oil or gas firing—or a combination of both—with instantaneous change of fuel under either automatic or manual control.

Available as a complete burner unit for easy application to any type of boiler, from 18 to 92 bhp. Also available in a complete boiler-burner unit (with Scotch boiler) delivered at site, ready for service connections. For full description and specifications, please mail coupon.

See Petro Catalog in Sweet's Architectural File

Makers of Quality Heating and Power Equipment since 1903

PETRO

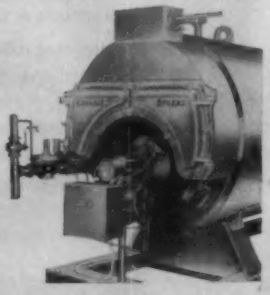
T. M. REG. U. S. PAT. OFF.

Forced draft... no stack or induced draft fan required.

No flame pulsation.

Single or dual-fuel firing.

Complete unit with Scotch boiler; or burner only for use with any type boiler.



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Please send me information on Petro P-240 Forced Draft Gas-Oil Burner.

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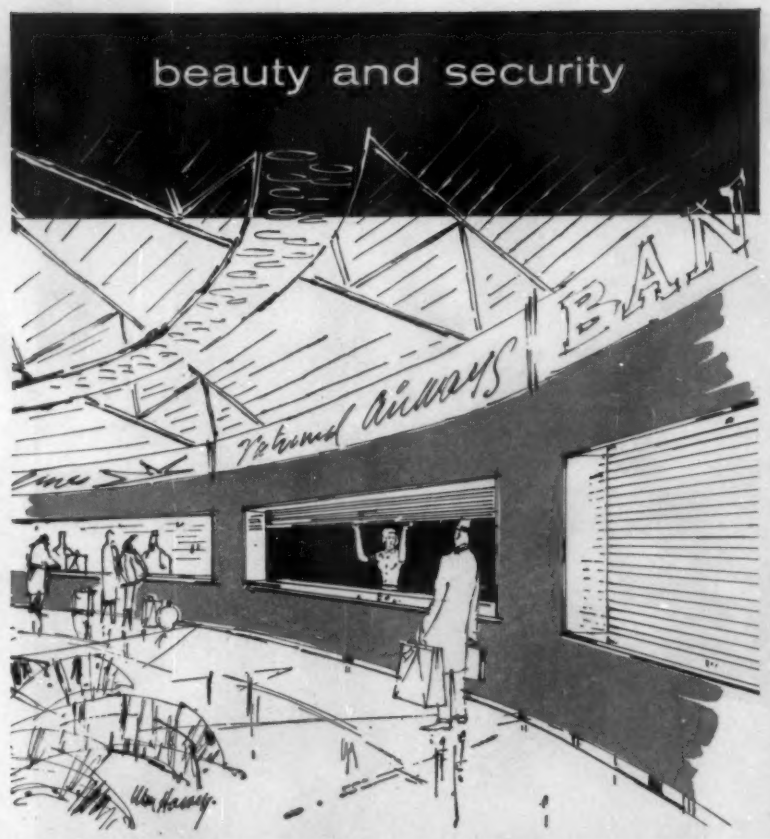


the pygmee rolling counter door

This is Balfour's new **pygmee rolling counter door**; it is a new concept in counter closure design.

From its extruded alumilited curtain to its ingeniously concealed hardware and minimum space requirements, the **pygmee** has been **designed** to blend with the dignity, elegance and grace of contemporary architecture.

From the exclusive security features of its guides and bottom bar to its "silent-glide" nylon bands and precision balancing, the **pygmee** has been **designed** to achieve the ultimate in utility and security.

The **pygmee rolling counter door** is custom built to your specifications for counter closures in ticket offices, banks, hotels, cafeterias, concession stands . . . wherever maximum security features must conform with the smart, clean lines of today's architecture.

You'll find full specification data on the new **pygmee** door in Sweet's Files. Or, for your personal copy of the **pygmee** catalog, write to Walter Balfour today.

Balfour
pygmee doors
Walter Balfour & Co. Inc., Brooklyn 22, New York

Product Reports

Porcelain Enamel Facing Panel

Color Wall, a new laminated panel for facing building exteriors, is made up of a tempered, hardboard core, faced with porcelain enamel on steel and backed with a metal moisture barrier. Panels come in ten semi-gloss colors, and a stippled surface of pastel blue or mint green; sizes include 2 by 8, 2 by 10, 3 by 8 and 3 by 10 ft. A similar lightweight panel is also available for use in interior partitions and walls. *Kawneer Company, Niles, Mich.*

Constant Volume Control

A simple new control device, the R-316 *Air Flow Controller*, is said to greatly increase the accuracy and reduce the installation and operating costs of high velocity, double duct air conditioning systems. According to its manufacturer, the controller assures constant volume air delivery to each room regardless of the number of mixing units in the system, the length of duct runs or differences in pressure between the hot and cold air ducts. When installed in the mixing unit, it adds the flexibility of room temperature control while permitting savings in initial fan costs, fan horsepower consumption and duct design. Additional savings result from eliminating the need for manual balancing of the system. *Johnson Service Co., Milwaukee 1, Wisconsin.*

more products on page 282

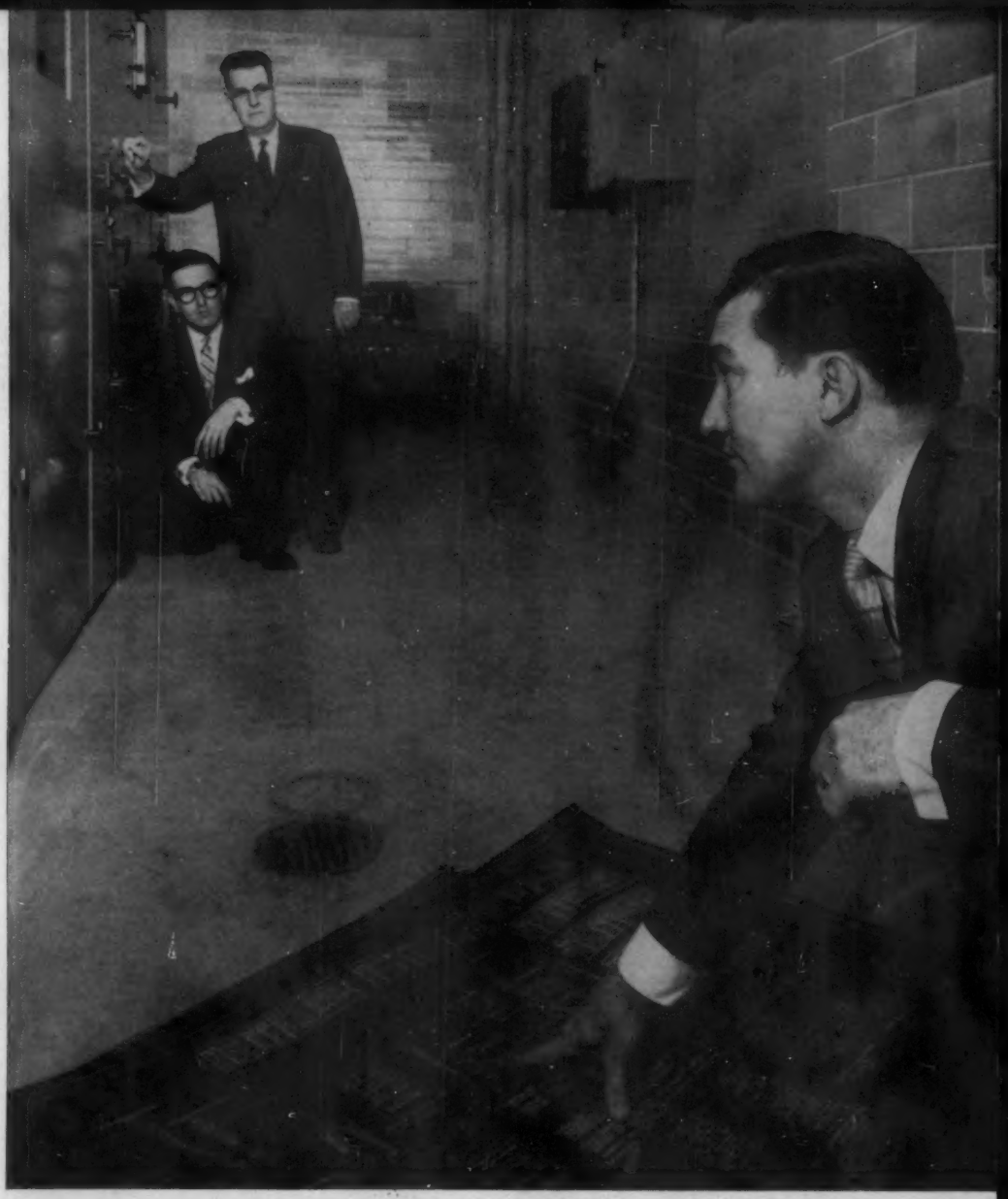
Cardinal Glennon Memorial Hospital for Children, St. Louis, Mo.

Children's hospital is designed for a century of service

One of the two motor control centers with Type B wiring installed in hospital by Westinghouse. Each starter has 480-to 110-volt individual control transformer.

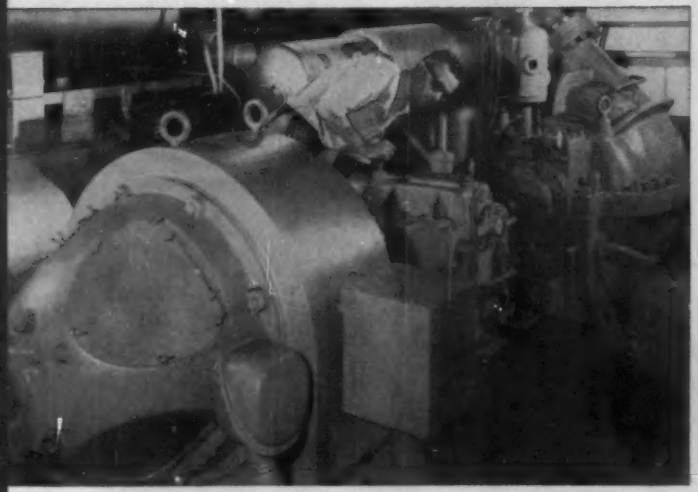
YOU CAN BE SURE...IF IT'S Westinghouse

J-94094-1

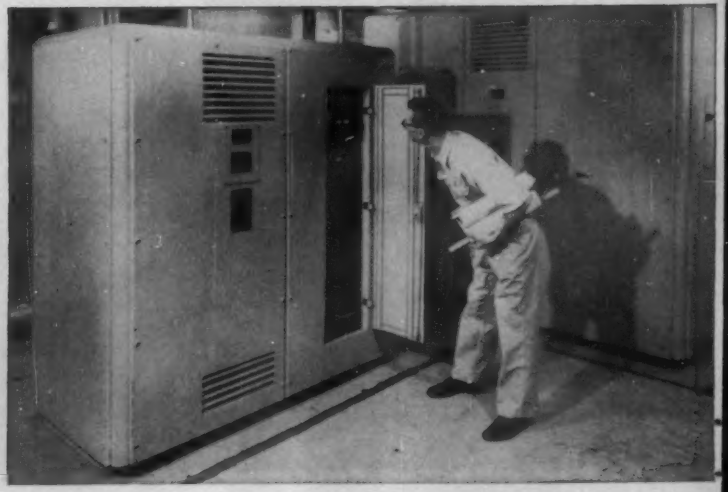


Contractor and engineers discuss metal-clad switchgear employing preferred-emergency incoming line transfer arrangement.

J-94094-2



Close-up shows components in air conditioning compressor hook-up. In the foreground is a Westinghouse 250-hp wound-rotor induction motor with Type SU double-helical-type speed increaser—1760 to 6750 rpm.



Transformer room view shows three of hospital's five Westinghouse dry-type self-contained power centers. 75-kva 208-volt wye to 120-volt delta ungrounded isolating power center is in the foreground, and two 225-kva power centers are in the rear.

Scene in hospital conference room includes Norman H. Maas, Electrical Engineer for Maguolo and Quick, Architects; Joseph F. Dwyer, Manager of Hospital's Central Office and Coordinator of Building Committee; Sister Mary Vivian, S.S.M., Director of Occupational Therapy; Louis S. Sachs, S. C. Sachs Co., Inc., Electrical Contractors; (standing) W. L. Phiffer, Westinghouse Construction Sales Engineer; Walter R. Riechman, Westinghouse Electric Supply Co.; and Paul Olschner, Westinghouse Area Sales Manager.

New hospital covers 4½ acres —required 4,000,000 man-hours of labor during 3-year construction period

The Cardinal Glennon Memorial Hospital for Children, now in its second year of operation, is an example of architectural planning which looks beyond the immediate demands of hospital form and function to anticipate future hospital requirements. The man-hours of labor which went into the actual construction of the hospital reflect the many other hours which were devoted to careful design and engineering of the institution.

The design criteria for the building was established at 100 years, and all material and equipment was specified on that basis. Important in this long-range planning was the electrical distribution system which was required to provide failure-free service for the hospital and also required to be capable of expansion as needed.

Westinghouse equipment, including elevators, was selected for the entire hospital electrical distribution system, and after exhaustive studies by the architect's electrical engineers, in cooperation with Westinghouse engineers, it was determined that duplicate primary service system was best suited to the hospital's present and future requirements. Details of the Westinghouse equipment used in the hospital are illustrated here. Additional information about how Westinghouse helped meet the demands of this exacting hospital requirement and can help you in solving your electrical needs is available. See the Westinghouse Electrical Construction Engineer nearest you or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania.

YOU CAN BE SURE...IF IT'S Westinghouse

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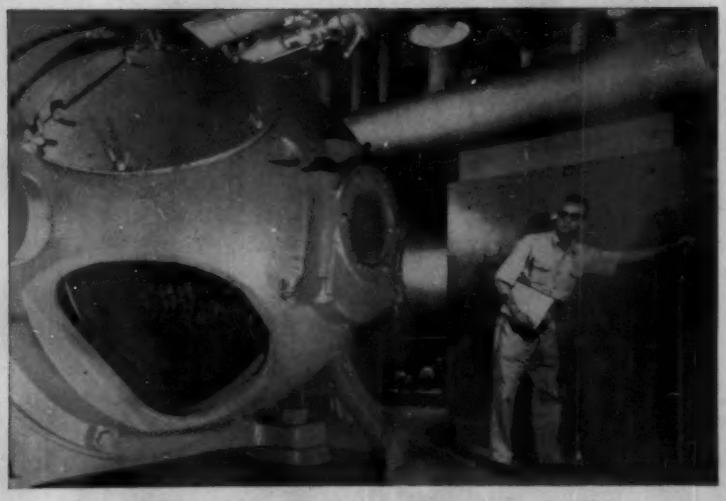

Operator is adjusting rpm of one of two 250-hp compressor motors. On-off switch is on column at right and motor control components are in large enclosed cabinet.

Westinghouse Type NLAB Quicklag® breaker lighting panelboards. A total of 42 lighting panelboards and 10 power distribution panelboards are installed in the hospital.

Illustration shows the utilization of individual Westinghouse motor controls. The four vacuum pumps in the foreground are individually controlled by the motor controls being operated in the background.

All-Westinghouse electrical system was unanimous choice for long-term service

The architect, electrical engineer, electrical contractor and building manager for the hospital all agreed on Westinghouse electrical equipment as first choice for continuous, failure-free performance, minimum maintenance and for the ease with which necessary future expansions can be accomplished.

The Cardinal Glennon Memorial Hospital cares for children between the ages of one to twelve, regardless of race, color or creed.

Cardinal Glennon Memorial Hospital for Children
Architect-Engineer: Maguolo and Quick
Electrical Contractor: S. C. Sachs Co., Inc.
General Contractor: John B. Gutman Construction Co.
Westinghouse Distributor: Westinghouse Electric Supply Co.

J-94094-4

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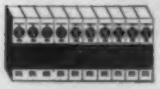

Over 275 Pages Westinghouse Data In Sweet's Architectural File.

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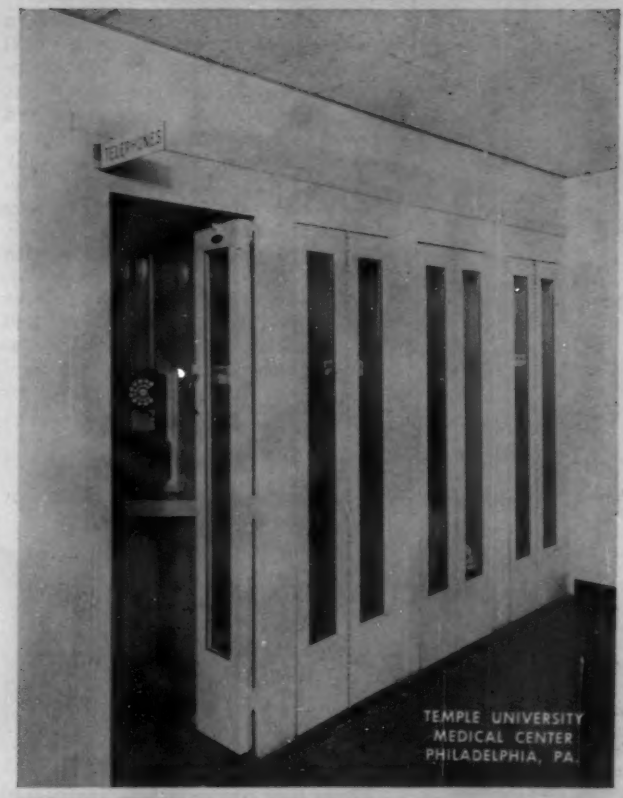
steel multiple telephone booths

...belong in hospitals

Safe! Sanitary! Enduring! These are the big reasons why Sherron steel booths are prescribed for hospitals and other institutions.

They are fireproof. Their joined construction prevents dirt accumulation between booths. And they retain their original good looks indefinitely ... whether in stainless steel or in lifetime colors to harmonize with given interiors. They can be installed free standing or recessed, depending on the architectural motif . . . with electrical facilities in recessed booths serviced from within the booth, thanks to a convenient hinged ceiling. . . . Consult your telephone company or write us for technical data.



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Sherron Steel Telephone Booths are:

FIREPROOF and free of all hazards

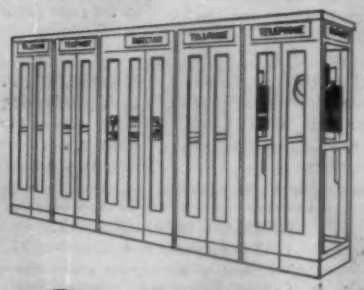
ACOUSTICALLY TREATED for utmost privacy

ILLUMINATED for easy vision

VENTILATED for year-round comfort

EASILY CLEANED with a wipe of a cloth

RECESSED or **FREE STANDING** to fit readily into any architectural motif



FREE STANDING BOOTHS WITH SEE-THRU GLASS PANELS AFFORD FULL VISION AT ALL FOUR SIDES ...AT ALL TIMES

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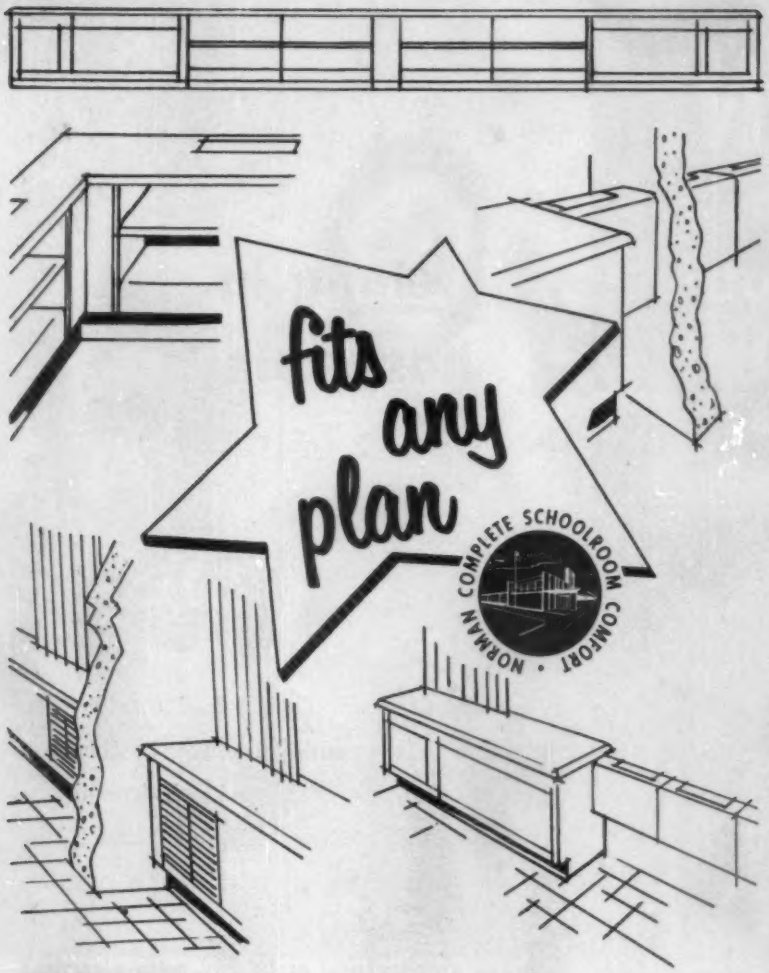

Norman® Schoolroom Heating and Ventilating System

VERSATILE . . . adapts to any schoolroom. May be installed along part or all of exposed wall, then continued around corner if room has two exposed walls, or through wall into adjacent room.

TWO SIZES . . . choice of 85,000 or 100,000 BTU/hr. input to meet requirements of any size classroom.

UTIL-I-DUCT, WALL-I-DUCT . . . bookshelf sections add work-top and storage space to classrooms. Thin Wall-i-Duct sections save room space. Two types of ducts can be used together.

RIGHT-OR LEFT-HAND MODELS . . . these individual central heating units can be installed at either end of exposed wall. Two systems can be used together in large rooms. Systems in adjacent rooms can be extended from a common partition wall with flues from both heating units housed in the same partition.

FLEXIBILITY . . . individual schoolroom-packaged heating and ventilating systems mean greater freedom in planning new schools, and important economy in planning future additions.

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We want to learn more about Norman Products for School Comfort. Please send complete information to:

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COMPANY NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

See Sweet's Arch. File 29f, American Sch. and Univ. Annual C-1/no

Product Reports

Corrosion-Resistant Plastic Panel

The "Metal Gray" *Resolite* panel, a new type of structural plastic panel developed specifically for use in industrial plants, is expected to last over three times as long as standard metal corrugated panels in a corrosive atmosphere. Made of a specially formulated reinforced polyester resin, the panels are a dull metallic gray in color, and thoroughly opaque. They are currently available with standard 2.5, 2.67 and 4.2 in. corrugations in either standard or extra heavy weight, and can also be had in a special fire-resistant formulation. *Resolite Corp., Zelienople, Pa.*

Spot Fire Detectors

Three new fire detectors engineered by J. H. Scharff, Inc., make it possible to detect fire fast by a variety of methods—rate of temperature rise, fixed temperature or a combination of both. Known as *Fyrindex* detectors, these spot-type elements can be combined with other components to create a complete fire alarm system. If desired, they can cause doors or windows to close, shut off machinery, and automatically perform other functions in addition to triggering an alarm. All three units are self-resetting, 3⅝ in. in diameter by 2$\frac{5}{32}$ in. deep, and may be mounted on flat surfaces or on 3¼ in. outlet boxes. *Walter Kidde & Company, Inc., Belleville, N. J.*

more products on page 286

WILLIAM F. BERNBROCK, ARCHITECT

Bring out the beauty of modern materials with *Pella*® wood folding doors

Convenience is just one big point you can talk up with PELLA WOOD FOLDING DOORS. See too, how handsomely they harmonize with the wood cabinets and furnishings, dramatically accent the masonry wall, create an eye-catching interplay of textures among appliances and floor materials.

PELLA WOOD FOLDING DOORS are the truly decorative answer to builder's problems in organizing modern open-plan living areas. Supplied ready for custom-finishing, or factory finished in pine, oak, birch and Philippine mahogany veneers. Packaged...ready for fast installation.

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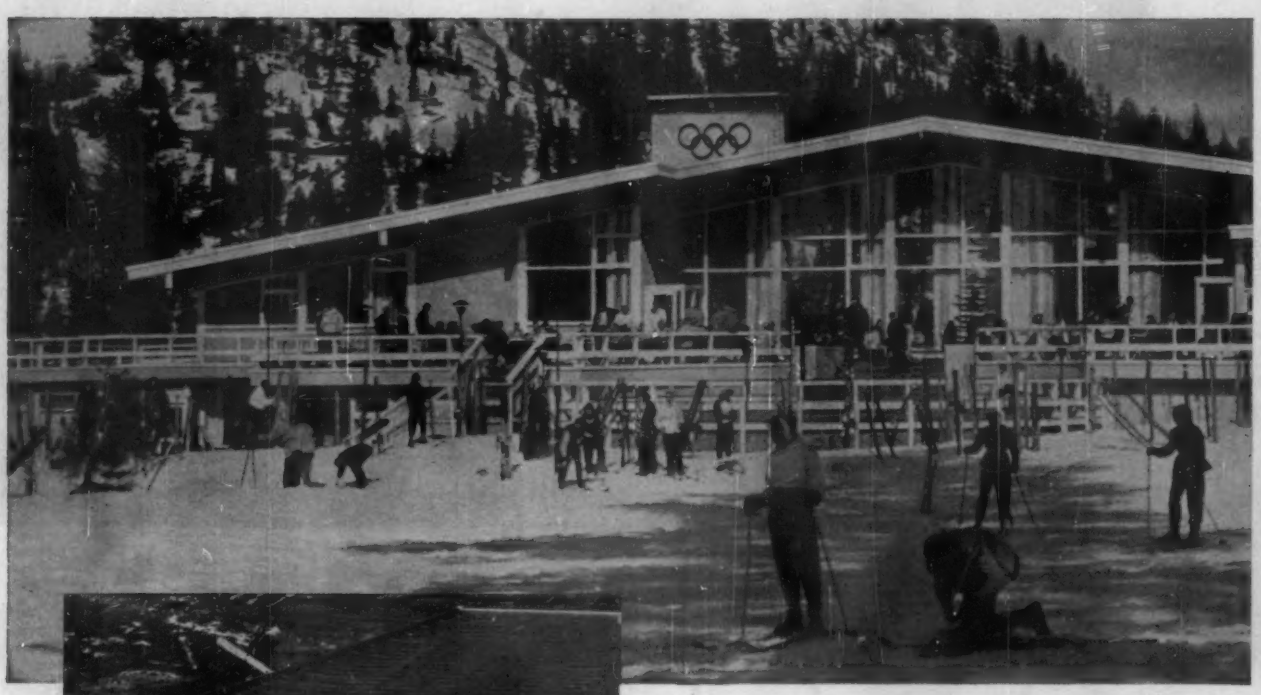
Pella®

WOOD FOLDING DOORS

Warm Welcome for the 1960 Winter Olympics

SQUAW VALLEY LODGE

Lifelines of CHASE®



SNOW RAPIDLY DISAPPEARS on the outdoor terrace of Squaw Valley Lodge. Thanks to Chase Copper Tube, this snow-melting system was quickly, efficiently and inexpensively installed.

At Tahoe City, California, they're getting ready for the first U. S. Olympics since 1932. For the most modern comfort and convenience, Squaw Valley Lodge has installed inside radiant heating and outside snow melting systems, using *20,000 feet of Chase copper tube!*

These Lifelines of CHASE copper tube will provide indoor warmth...melt snow swiftly on terrace and walks...*remain* free-flowing indefinitely.

Chase®

The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L. I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

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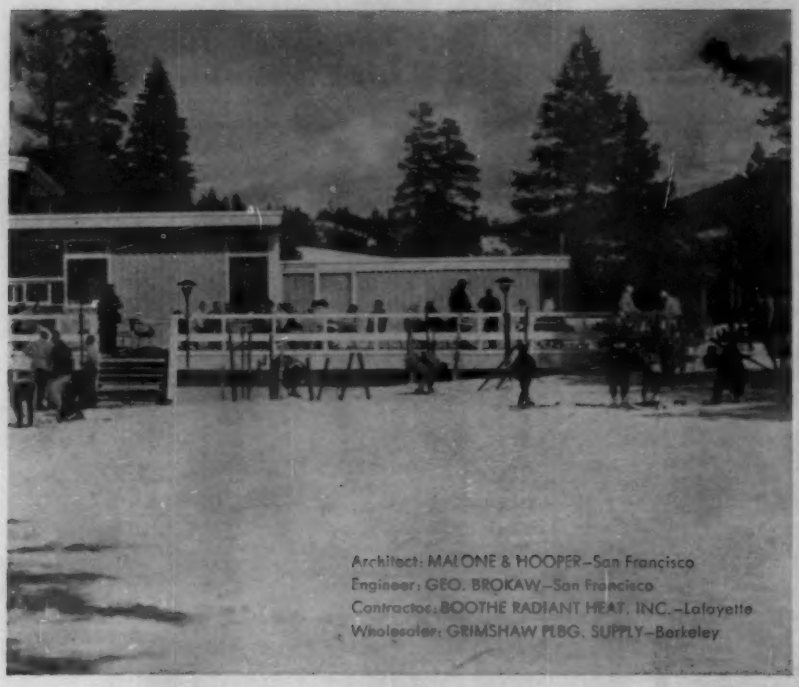
COPPER TUBE!



Architect: MALONE & HOOPER—San Francisco
Engineer: GEO. BROKAW—San Francisco
Contractor: BOOTHE RADIANT HEAT, INC.—Lafayette
Wholesaler: GRIMSHAW PLBG. SUPPLY—Berkeley

CHASE copper tube is *known* for its superior quality and dependable, long-lasting performance. It was CHASE that pioneered copper tube and fittings. And over the years, more CHASE copper tube has been used in building than any other brand.

Whenever you want easy installation, trouble-free service and long-range value—always insist on Lifelines of CHASE copper tube. It never pays to settle for substitutes!

BRASS & COPPER CO.

WATERBURY 20, CONNECTICUT
SUBSIDIARY OF KENNECOTT COPPER CORPORATION

LIGHTWEIGHT, bendable Chase Copper Tube is so easy to handle, mechanics save time; do a better job faster.

EASY-TO-SOLDER, too, Chase Copper Solder-Joint Fittings go on in a jiffy. Long tube lengths mean fewer fittings required.

FREE-FLOWING water travels unobstructed and at full pressure over the years through radiant heating Lifelines of Chase Copper Tube.

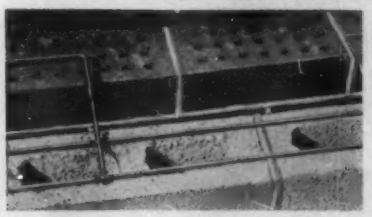
PRESSURE-TIGHT, these properly installed Chase radiant floor heating lines are going in *for good.*

FLUSH WELDED · PROVEN TO BE STRONGER ·

New ideas in design and building depend on . . .

AA WIRE MASONRY REINFORCEMENT

SEE 1958 SWEET'S ARCH. 4h/Aa & IND. CONST. 3c/Aa



ECONO CAVITY-LOK*

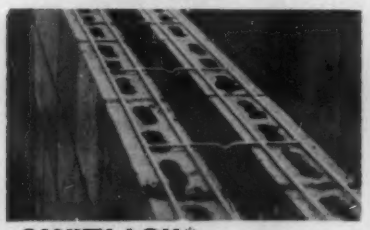
(For cavity walls of block and brick)

Two parallel reinforcing wires of 9/16" high tensile steel wire, control shrinkage cracking in the concrete block backup. Flush-welded rectangular ties, spaced 16" O. C., of 9/16" high tensile steel wire (to comply with building code requirements), tie facing to backup; permitting some movement between wythes. Made in 12' lengths and packaged 15 pieces to a bundle.

ECONO-LOK*

(For solid walls of block and brick)

Report G-585 from Armour Research Foundation of I. I. T. proves ECONO-LOK tied walls are stronger than two wythe walls using masonry headers. (Write for your copy of the full report.) Available in No. 9 high tensile steel wire, for curtain walls, and all 9/16" high tensile steel wire, for bearing walls, per A. S. A. Code requirements for metal bonders. Made in 12' lengths (9 rectangular ties each) and packaged 15 pieces to a bundle.



CAVITY-LOK*

(For cavity walls of block and block)

Four parallel reinforcing wires control shrinkage and settlement cracking and add lateral and tensile strength to both inner and outer wythes of a cavity wall. (Flush welded cross ties spaced 16" O. C. tie inner wythe to outer wythe.) Made of all 9/16" high tensile steel wire to comply with building code requirements. Made in 10' lengths and packaged 10 pieces to a bundle.

BLOK-LOK

(For all masonry walls)

Flush-welded design controls shrinkage, settlement and temperature cracks by the principle of steel in tension and by increasing transverse strength. Also used with glass block and clay brick and to strengthen weak points of masonry walls. Available in various gauges. Made in 10' or 12' lengths; packaged 25 pieces per bundle; end-wrapped and marked for easy identification and handling.

ALL OF THE ABOVE AVAILABLE IN THE FOLLOWING FINISHES: All brite basic finish—Brite basic finish on side rods with cross ties of mill galvanized wire—All mill galvanized wire—Hot dipped galvanized after fabrication.

AA WIRE PRODUCTS COMPANY

720 East 61st St., Chicago 37, Ill. Phone: Midway 3-8203

Name: .....

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I am interested in becoming a BLOK-LOK distributor or dealer.

I am an ☐ Architect ☐ Engineer ☐ Other

☐ Send me literature and prices. ☐ Send me (FREE) new block and BLOK-LOK calculator.

*Pat. Pending © 1957 AA Wire Products Company

Product Reports

Unit Ventilator Control System

A new automatic control package for face and by-pass unit ventilators combines a dual element, unit-mounted room and discharge controller with an oil-submerged spring return motor operator and a change-over thermostat to provide a precise control system for both room and discharge temperatures in today's classrooms. Change-over from heating to cooling is automatically controlled by the unit-mounted thermostat, which senses whether the supply medium is hot or chilled water and activates the unit ventilator controls accordingly. Both the motor and controller assemblies are prewired and equipped with plug-in cables to facilitate installation of the complete control system. *Barber-Colman Co., 1300 Rock St., Rockford, Ill.*

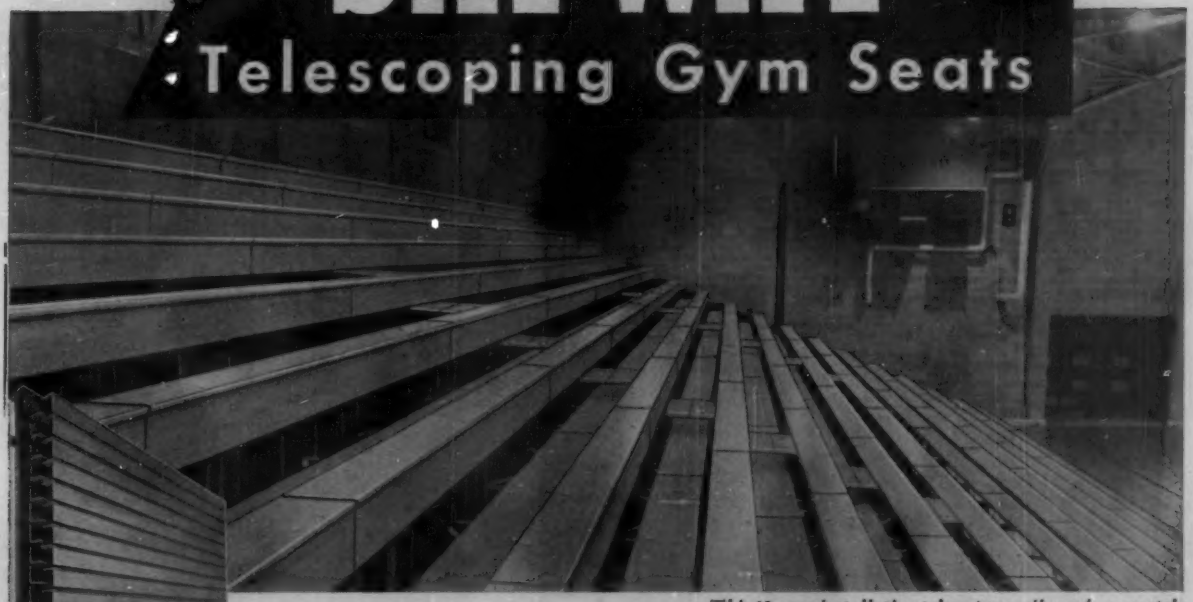
Plastic Foam Wall Covering

Decorative wall coverings of *Curon*, Curtiss-Wright's versatile new contribution to the plastic foam family, are said to provide an attractive, durable finish that also soundproofs and insulates. When applied to walls and ceilings, the rich-textured, colorful material reduces both noise reverberation within a room, and sound transmission between it and adjoining rooms. Its insulating properties are equal or superior to those of many common insulating materials, and its flexibility over a wide temperature range makes it effective for virtually every type of application. Available in 12 colors, the *Curon* wall covering comes in 10 in. squares or 24 in. wide rolls with plain or striated surfaces. Tiles or panels are easily applied with a special adhesive, and can be vacuum cleaned or washed with soap and water. *Curon Section, Curtiss-Wright Corporation, 3 East 54th St., New York 22, N. Y.*

more products on page 290

SAFWAY

Telescoping Gym Seats



This 18-row installation telescopes easily and accurately

...assure quick, easy changes for every gym seating event

YOUR GYM SEAT SET-UP may be changed several times daily for varied gymnasium events. With frequent opening and closing, *easy operation* of seats is vital to keep your handling time and costs low.

Safway seats roll smoothly—minimize friction—reduce effort. Complete 16-ft. sections move straight in and out, without binding or cocking. The simple telescoping design eliminates jointed levers and crossarms.

Advanced Safway engineering also gives you these important advantages:

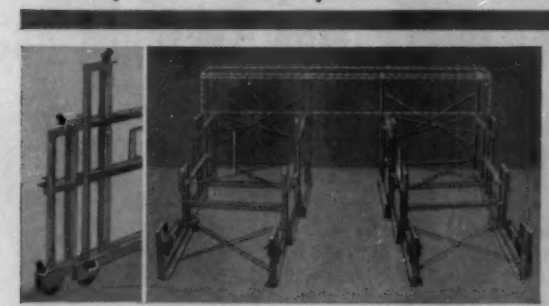
STRONG, SAFE CONSTRUCTION—8 steel columns under every row; uniform load distribution through vertical and horizontal steel bracing; 3 automatic locking devices.

SIMPLE, EFFICIENT DESIGN—Minimum of moving parts. Stable support with extra-long wheel carriages and 8 self-lubricating wheels under each row.

NO POWER EQUIPMENT NEEDED—With binding eliminated and friction minimized, there is no need for costly power equipment.

HANDSOME, FURNITURE-LIKE APPEARANCE—Seat and foot boards have a rich, glossy Golden Oak finish.

Write today for free Bulletin 163!



FRICTION MINIMIZED BY ROLLERS; RIGIDITY INSURES STRAIGHT TRACKING

(LEFT) Rollers eliminate metal-to-metal friction at contact points. Top arrows show horizontal rollers in channel under foot boards; bottom arrows show vertical rollers between wheel assemblies.

(RIGHT) Standard 16-ft. section, showing vertical and horizontal bracing. Rigid structure keeps rows always parallel to insure straight, in-line tracking as rows telescope in or out.

Be sure to see Safway telescoping gym seats at your regional AASA show:

February 22-25	St. Louis	Booths J-15 and J-17
March 8-11	San Francisco	Booths 226 and 227
March 29-April 1	Cleveland	Booths I-52 and I-54

SAFWAY
STEEL PRODUCTS, INC.
6237 W. State St., Milwaukee 13, Wis.

The "Right Angle" in This Steel Joist's Web System

This inspector from an independent testing laboratory is measuring the slope of a joist web produced in an SJI member plant. In open web steel joist manufacture, deviations from the design angularity could seriously undermine the strength of the joist.

To insure quality and dependability in the joists manufactured by its member companies, the Steel Joist Institute subjects the joists to 16 such searching tests and measurements. Only after the joist has "proved its worth" in this rigid examination is it granted the SJI seal of approval.

STEEL JOIST INSTITUTE

DuPont Circle Building • WASHINGTON 6, D. C.

Steel joists of the designations adopted by the Steel Joist Institute and manufactured by the following companies have been investigated and approved by the Steel Joist Institute:

AMERICAN BRIDGE DIVISION
United States Steel Corporation
BETHLEHEM STEEL COMPANY
BUILDERS STRUCTURAL STEEL CORP.
CECO STEEL PRODUCTS CORP.
COLORADO BUILDERS SUPPLY CO.
CONCRETE STEEL COMPANY
JOHN HANCOCK, JR., INCORPORATED
LACLEDE STEEL COMPANY
MACOMBER INCORPORATED
SHEFFIELD DIVISION
Armco Steel Corporation
SOUTHWEST STEEL PRODUCTS
TRUSCON STEEL DIVISION
Republic Steel Corporation
VIRGINIA STEEL COMPANY

Means Better Construction Here...

Can Make a Lot of Difference in This Building's Strength

Because the Steel Joist Institute will approve only joists which meet its standards of design and construction, steel joists manufactured under the SJI quality verification program may be specified and used with confidence.

Quality of open web steel joists is especially important today, when more and more is expected of these versatile structural members. Among the many advantages offered by open web steel joists are high strength, light weight, fast placement, economy and adaptability to varied architectural styles.

STEEL JOIST SJI APPROVED SJI INSTITUTE

FREE *Write for technical bulletins*

See our insert in Sweet's Architectural File 2c/St

STEEL JOIST INSTITUTE
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Please send technical bulletin(s) checked below:

- ☐ 1BR—BRIDGING
- ☐ 1QVP—QUALITY VERIFICATION PROGRAM

Name_____

Company_____

Address_____

City_____ Zone____ State____

DESIGN TECHNIQUES FOR CONTROLLING MOISTURE and CONDENSATION IN BUILDING STRUCTURES
The Hydrologic Cycle and Moisture Migration
SEALTIGHT
W. R. MEADOWS, INC.

Now available free of charge

"DESIGN TECHNIQUES FOR CONTROLLING MOISTURE & CONDENSATION IN BUILDING STRUCTURES"

Modern developments in building construction, with trends toward a more monolithic structure, the increased use of insulating materials, and the use of glass and other impermeable materials in the shell area, have introduced new problems in the form of condensation and the uncontrolled migration of free water. Some of the more common types of damage resulting from condensation, are the blistering and peeling of paint, loosening of plaster, efflorescence of masonry, interior dirt patterns, mechanical destruction of structural elements, warping and rotting of floors and the incursion of termites.

Many past studies have treated vapor problems symptomatically, attempting to deal with a manifest difficulty. Here is a technical manual, the first of its kind, explaining in the architect's and engineer's own language, moisture movement, condensation problems and modern control methods for moisture and vapor movements. The manual gives factual proof of the effectiveness of impermeable materials in restraining moisture migration.

This book, now available free of charge through the courtesy of W. R. Meadows, Inc., has been specifically prepared to assist architects and engineers in protecting structures from migration of water in its various forms. Write today for your copy.

W. R. MEADOWS, Inc.

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Gentlemen,

☐ Please send, without obligation on my part, a copy of the "DESIGN TECHNIQUES" Manual.

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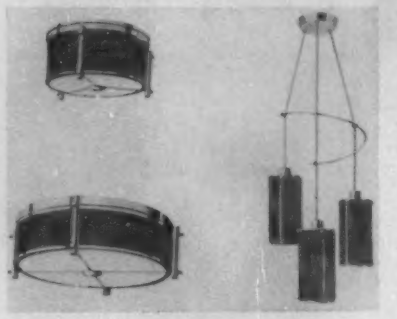
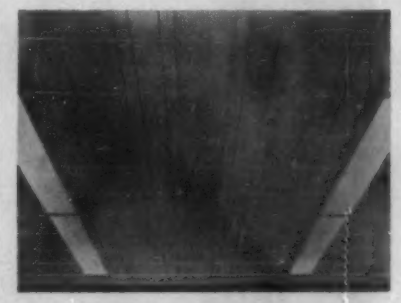
Product Reports



Translucent Wood Light Fixtures

A new line of brass-trimmed lighting fixtures features "shades" of *Luxwood*, a cabinet grained wood which is translucent when the fixtures are lighted. Available models include a reel pull-down and a single pendant unit, as well as the three-light cluster and the two close-to-ceiling units shown above. *Thomas Industries, Inc., 410 South Third St., Louisville, 2, Ky.*



Radiant-Acoustical Ceiling

The newly developed *Airtex* ceiling system features an aluminum radiant panel that can be used in conjunction with standard acoustical tiles for radiant heating and cooling, and noise reduction. Made of solid aluminum in a standard 12 by 24 in. size, the panels are designed to fit into conventional "T" bar suspension systems. Heat from water pipes connected to special square headers above the ceiling is transmitted to the radiant surface via thermal heat bridges spaced 6 in. apart and 3 in. from each side of the panel. An acoustic-thermal blanket placed over the heating-cooling pipes provides thermal insulation and supplements the noise reduction properties of the acoustical tile. The system comes complete with "T" bar clips, coil clips, square headers, suspension channels, and radiant panels in a choice of 400 colors. *Airtex Corp., 9200 North Western Ave., Chicago 18, Ill.*

more products on page 294

TAYLOR MEMORIAL LIBRARY

CENTENARY COLLEGE FOR WOMEN
HACKETTSTOWN, NEW JERSEY

AWARD WINNER- *1955 Award of Merit, AIA*

"Our task was to design a library building for a college campus which, through its convenience of arrangement, and lively and inviting spirit would attract the students.

"A combination of brick bearing walls and a steel frame allowed generous, uncluttered interior spaces and large glazed areas. Open-web steel joists provided light-weight roof construction and wide, glare-reducing overhangs. Joisrs and girders were protected by a fireproof acoustical ceiling. The steel columns, on the other hand, were left exposed. Thus they relate better to the expression of the steel window walls and metal book stacks, and by their slimness they add to the light spaciousness of the reading room.

"This system was accepted after an analysis of comparative fire insurance rates and construction costs proved it to be the optimum solution."

Structural Engineer:
A. D. Ateshoglou

General Contractor:
Fred J. Brotherton

Steel Fabricator:
Albert Smith's Sons

Structural Shapes:
Bethlehem Steel Company

Jan Hird Pokorny, Architect, New York City

A SIGNIFICANT NEW STRUCTURE . . . FRAMED WITH STEEL

This is the third in a series by Bethlehem Steel Company, Bethlehem, Pa.

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REPUBLIC STEEL LOCKERS OFFER

MOST FOR YOUR MONEY! Republic Steel Kitchens complete your client's home Ec Department. At minimum cost. Blend with all latest appliances. Easy to install, easy to maintain, built to serve. Wide choice of styles and sizes for design flexibility. Cabinet sinks, wall, base and special-purpose cabinets including built-in range and oven cabinets. White, Yellow, Turquoise, Pink. Send coupon.

THE BEST COSTS LESS INSTALLED. That's the capsule story of Republic ELECTRUNITE® E.M.T.—the original lightweight threadless rigid steel electrical raceway. Easiest of all the install. Adequate-size ELECTRUNITE E.M.T. means electrical flexibility—a pull-in, pull-out wiring system that can be expanded as future electrical requirements, and circuits, grow larger . . . without costly remodeling. Send coupon for facts. Photo: ¾-inch and 1-inch ELECTRUNITE E.M.T. in Emory University, Atlanta, Ga. Robert & Co. Associates, architect and engineer.

BEST VALUE PER CONSTRUCTION DOLLAR

10 Reasons Why!

● **BONDERIZED!** Exclusive Republic feature. Provides superior base for enamel. Protects against rust, corrosion. Protects locker against damage due to bumps, scratches, abrasion.

● **BAKED ENAMEL!** Over clean, cold rolled Bonderized Steel. Sprayed on with latest electrostatic equipment. No dust. No dirt. In green, grey, beige, and special colors.

● **WIDEST CHOICE OF TYPES AND SIZES!** You name it. Republic's Berger Division makes it. Ten standard types may be grouped in various ways to meet your exact requirements. Space-saving, functional sizes. For corridors, classrooms, gymnasiums, auditoriums, laboratories, field houses, everywhere.

● **THREE LOCKING METHODS!** Specify standard flat key lock, padlock attachment, or exclusive Key-Control in which the key is the handle.

● **ACCESSORIES!** To meet your needs. Legs for free-standing installation. Sloping tops. "See-through" doors. Basket racks, basket trucks, baskets.

● **PLANNING AND ENGINEERING SERVICE!** Takes the whole job off your hands. Recommends the right lockers for your needs and for future needs.

● **RESPONSIBILITY FOR INSTALLATION!** Right down to tightening of the final bolt. Straight line, single source savings.

● **ON-SCHEDULE DELIVERY!** The leader in lockers delivers as-promised. General contractor schedules locker installations to conform with masons, plasterers, carpenters.

● **MASS-PRODUCTION ECONOMIES!** Republic's Berger Division is leading producer of locker equipment, geared to big volume runs. Your client saves.

● **MOST EXPERIENCED!** No other manufacturer can approach Republic's Berger Division in number of locker installations made. No other manufacturer knows this specialized business so well.

Specify Republic Steel Lockers and get most for your money.

LOWEST COST PER CLASSROOM made possible with Truscon Vision-Vent® Window Walls. Here's a completely factory-assembled curtain wall with window and insulated panel. Vision-Vent gives you all the mass-production and installation economies of standard steel windows. Designed, built and pioneered by Republic's Truscon Steel Division. Send coupon. Photo: Ludlow School, Ludlow, Ky., Potter, Tyler, Martin and Roth, architects.

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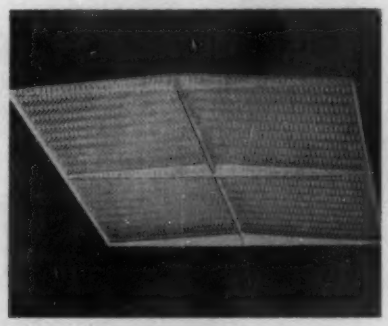
Stamps for Achitectural Drawings

An enterprising architect, Ambrose M. Richardson, A.I.A., has designed a series of rubber stamps for fast professional delineation of patterns, symbols and titles which occur frequently on architectural drawings. According to Ambrose, the stamps reproduce as well as hand drawings and result in significant savings in drawing time. Stock patterns (including trees, leaf patterns, shrubbery and ground cover, graphic scales, directional arrows, geometric and engineering symbols, figures, furniture, automobiles, and commonly-used titles) may be combined for a wide variety of effects, and special designs can be had on request. *Design Specialties, Inc., P. O. Box 671, Champaign, Ill.*

All-Glass Insulating Window Unit

GlasSeal Thermopane, a new all-glass insulating double window unit which eliminates the standard metal bonding, has been developed to meet the demand for standard sizes in various types of popular windows. Manufactured from two lights of double strength sheet glass with a nominal air space between the $^{3}/_{16}$ in. sheets, the unit has an over-all thickness of just under a half-inch. Sealing is accomplished by heating and forming the glass edges into an all-glass unit with a uniform, fire-polished round edge. *Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio*



Light-Controlling Lens

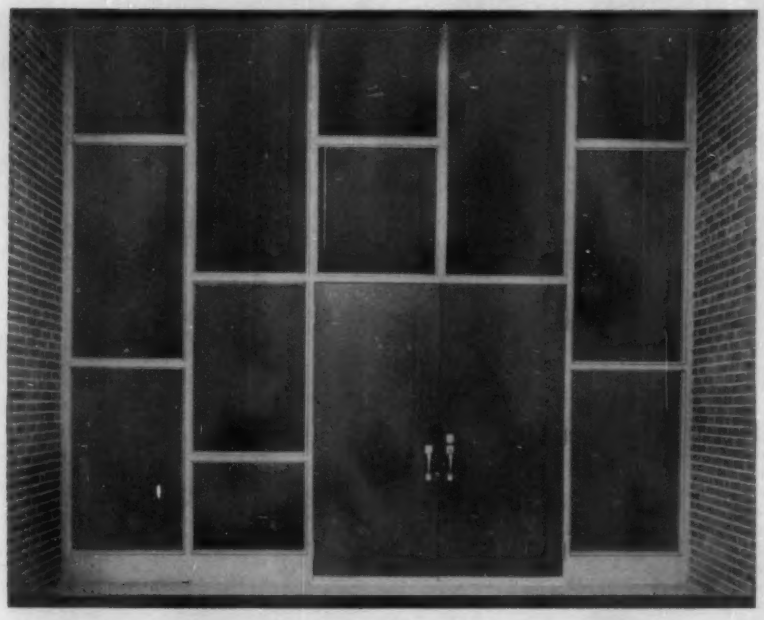
A new *Prismalume Controlens*, No. 6024, employs conical prismatic elements of acrylic plastic formed in a concave shape, with both longitudinal and transverse fins. Designed for installation in 2 ft fluorescent source modules, it can be used for troffers, luminous ceiling panels or complete over-all ceilings where high level, glare-free illumination is desired. A similar model is available with flanged sides for use in hinged troffers. *Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.*

Sectional Back Bar Units

A new line of modular, 26 in. deep *Back Bar* units for food service features wall panels which are self-supported by a newly developed method of socket channeling. Each of the 167 standard sections is a complete free-standing unit with 16 gage stainless steel tops, and can be assembled and connected to any of the other standard units to form a complete back bar line-up. Additional units can be added, or the existing line-up rearranged, at any time. *Southern Equipment Co., 4550 Gustin Ave., St. Louis 16, Mo.*

DO YOU HAVE PROBLEMS?

. . . with special hollow metal frame units.



DH **solution with the *fastest delivery* . . .**

INTEGRATED SUB-ASSEMBLIES

● Transoms, sidelights and borrowed lights present a critical problem in hollow metal delivery to the job. Dusing and Hunt Sub-Assemblies in standardized components and sizes are available for *delivery as needed* . . . from Distributors' stocks, strategically located throughout the country. Consult the Yellow Pages of your phone book.

Request Catalog DHS-2458 for Typical Elevations, cross sections and details.

● Typical Installation
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Mecklenburg County, N. C.
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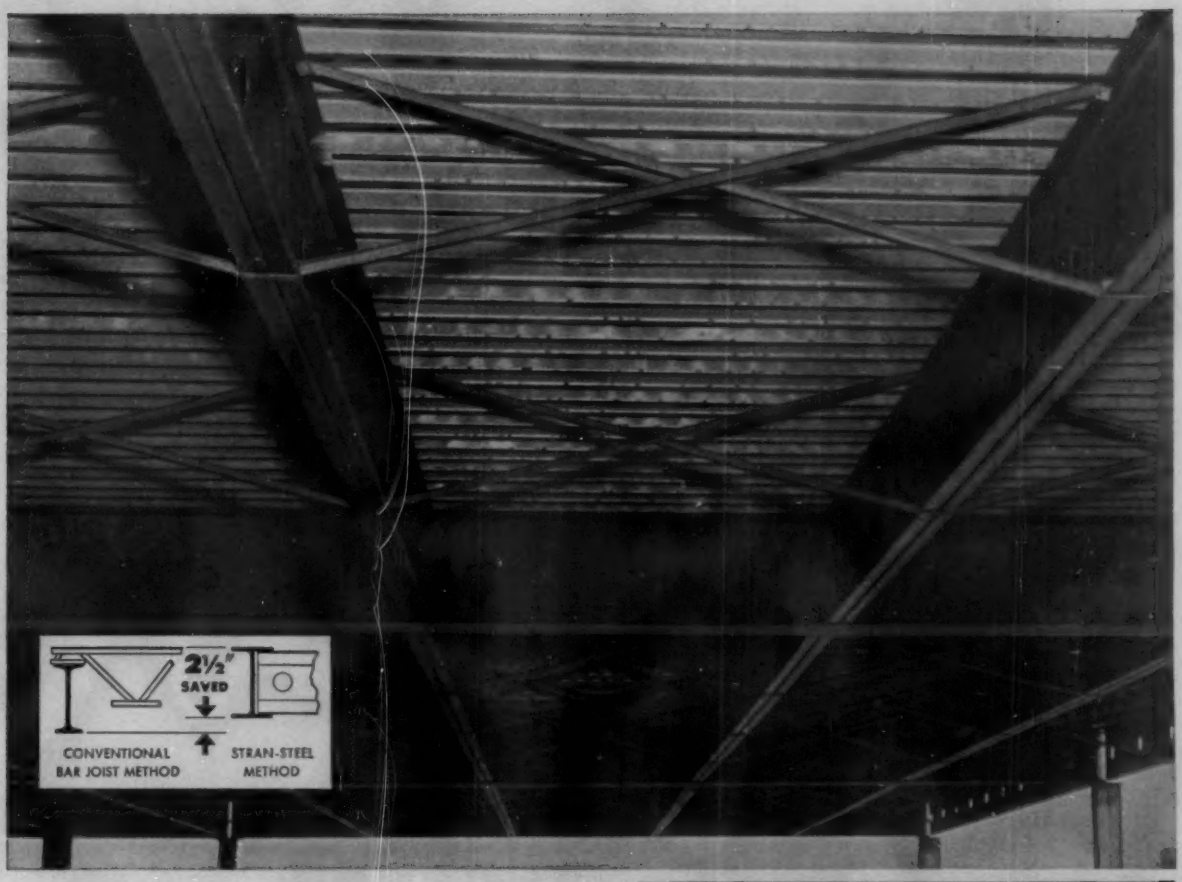
Charlotte, N. C.

DUSING and HUNT, INC.

61 LAKE STREET ● LEROY, N. Y.

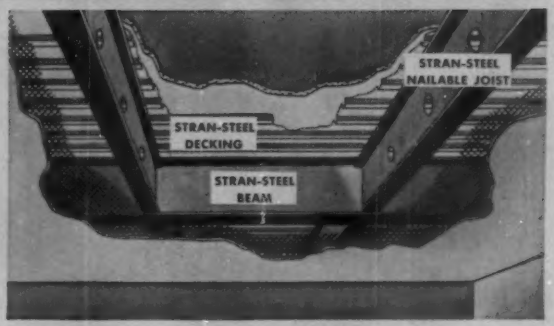


HOW STRAN-STEEL FLOOR-CEILING SYSTEM SAVES 6 WAYS

Stran-Steel's Floor-Ceiling system integrates wide flange beams, nailable joists and roof decking into one money-saving combination.

1. Overall height reduction saves materials on each floor (usually one course of bricks or equivalent).
2. No need for costly dropped ceilings or unsightly boxed beams.
3. Stran-Steel joists fit flush into Stran-Steel beams for better lateral beam support.
4. Stran-Steel roof deck is nailed to Stran-Steel nailable joists. Welding is eliminated. Application costs are cut 25 percent.
5. Conventional ceiling is also nailed to underside of Stran-Steel joist; saves labor and materials.
6. Less bridging required; saves time and money.

Stran-Steel Building System includes a complete line of lightweight, space-saving structural components for institutional, retail and industrial construction. Consult your nearest Stran-Steel dealer listed in the Yellow Pages under *Steel* or mail the convenient coupon.



Dept. 23-7

STRAN-STEEL CORPORATION

Detroit 29, Michigan • Division of

NATIONAL STEEL CORPORATION

Stran-Steel Corporation, Dept. 23-7
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☐ Please have your representative contact me.

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COMPANY_____

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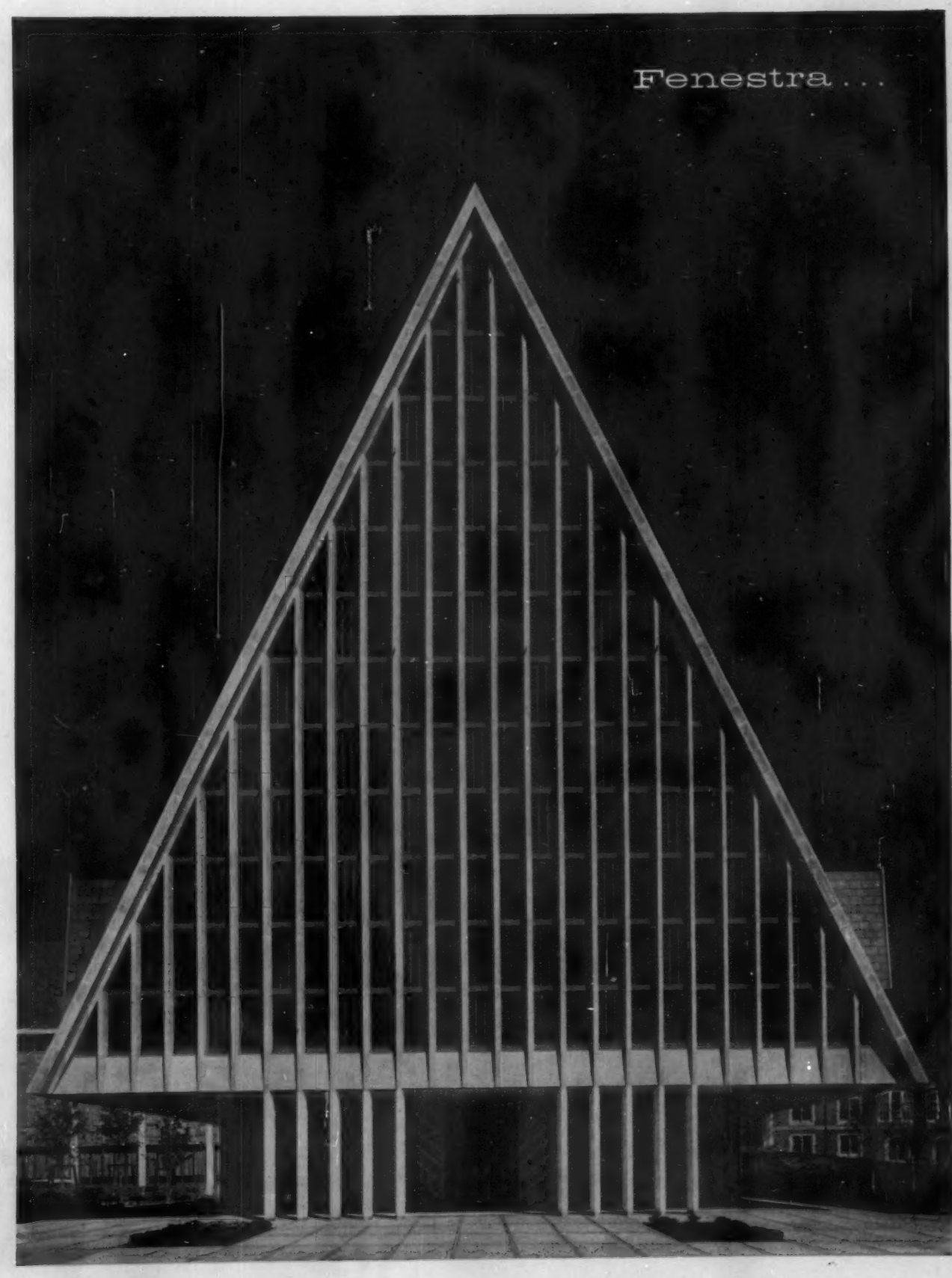
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Curtain Walls of Steel or Aluminum

Here's a bold and imaginative structure . . . an excellent example of how Fenestra® can take your building design—single story or high-rise monumental—and engineer, fabricate, deliver and erect the curtain wall . . . *as a package!*

You have a wide selection of steel or aluminum systems. A choice of subframes, windows and mullion patterns . . . a choice of vents including projected, vertical pivoted, double-hung, top-hung and casement . . . a choice of insulated panels, plain or embossed aluminum, or porcelain enameled steel. All materials, including the panels are produced by Fenestra. The *completeness* of the Fenestra line is a challenge to your creative design ingenuity.

Specifying and ordering curtain walls from a *single responsible source* saves you the time and trouble of searching out and fitting together components from various sources. Fenestra coordinates production, delivery and erection to eliminate confusion and save time and money.

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CURTAIN WALLS • BUILDING PANELS • DOORS • WINDOWS

Fenestra Curtain Wall—Steel subframes with applied projected sash. Lodge Hall and Recreation Building. Masonic Homes, Elizabethtown, Pennsylvania.

Architects—Mitchell & Ritchey, Pittsburgh, Pa.
Contractor—The Pottiger Company, West Reading, Pa.

Office Literature

continued from page 232

The Prescon System (A.I.A. 4-E-12)
Brochure No. 2 briefly covers history and development of prestressed concrete and explains the *Prescon* system of post-tensioning. Application examples, detailed technical data, labor estimates, guide specifications and detail drawings are included. 14 pp. *The Prescon Corp., P.O. Box 4186, Corpus Christi, Texas.*

Toilet Compartment Catalog
(A.I.A. 35-H-6) Catalog TC 58 contains complete descriptions, specifications and construction details for Cutler toiler compartments, hospital cubicles and dressing compartments. Color swatches of 22 baked enamel finishes are included. *Cutler Metal Products Co., 1025 Line St., Camden, N. J.**

Structoglas "A" (A.I.A. 26-A-9)
Offers complete information on mechanical and physical properties, chemical resistance, colors and finishes of *Structoglas "A"* reinforced plastic corrugated building panels and flat panes. Detailed installation instructions cover sidewall mounting, roof construction, patio design, skylight construction, and continuous windows with both corrugated and flat panes. 8 pp. *Structoglas Div., International Molded Plastics, Inc., 4387 West 35th St., Cleveland 9, Ohio**

Wrought Iron Electrical Conduit
Contains specifying information, dimensional and weight tables, and photographs of actual installations of corrosion resistant wrought iron conduit. 8 pp. *National Electric Products Corp., Rm. 900, 2 Gateway Center, Pittsburgh 22, Pa.**

Owens-Illinois Glass Block
(A.I.A. 10-F) Handsome 1958 catalog lists various types of Owens-Illinois glass block, and details their uses, functions and installation. Dimensional tables and specifications are included as is data on solar heat control, fuel savings, sound reduction and surface condensation. 20 pp. *Kimble Glass Co., Owens-Illinois Bldg., Toledo 1, Ohio*

Trane Air Handling Units
Revised catalog incorporates complete engineering information on entire line of air handling units. Performance and operation, construction, basic application selection, engineering specifications and roughing-in dimensions are covered in its 56 pp. Climate Changer Catalog DS-303, *The Trane Co., La Crosse, Wisc.*

Architectural Porcelain
(A.I.A. 17-A) Illustrates use of architectural porcelain panels as curtain wall and facing material, and details typical installations. 20 pp. Catalog 58, *Davidson Enamel Products, Inc., East Kibby St., Lima, Ohio**

Power Exhausters
Bulletin 58-A describes the complete line of Jenn-Air power exhausters, with complete capacity tables and specifications for each type of unit. *Jenn-Air Products, Co., Inc., 1102 Stadium Dr., Indianapolis 7, Ind.**

Private Telephone Systems
. . . for Industry, Institutions and Residences (A.I.A. 31-I-51) describes equipment and provides wiring diagrams for a variety of self-contained private telephone systems. 20 pp. *S. H. Couch, Inc., North Quincy 71, Mass.*

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 300

FREE INFORMATION

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OVERHEAD DOORS

Send for your copy of Monarch's new catalog today. It contains a wealth of helpful engineering and specification data on the complete line of Monarch sectional overhead doors.

Residential—Monarch overhead garage doors are designed to meet present day architectural styles and quality standards. Twenty single-car garage doors are carried in stock.

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Folsom, Pa.

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Please send me a free copy of your new catalog

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Used in famous buildings coast-to-coast for its colorful, carefree beauty!

Important buildings, department stores, shopping centers, office buildings, schools and homes across the country have floors of B. F. Goodrich Koroseal—and no wonder!

B. F. Goodrich Koroseal has a reputation for rugged durability and easier, more economical maintenance. It gives you striking patterns and colors for every decorating scheme . . . withstands heaviest traffic (footsteps actually *buff* it!) . . . wipes clean with a damp mop. Grease, stains and other destructive solutions can't harm it! And, it has a safe, Anti-Slip surface.

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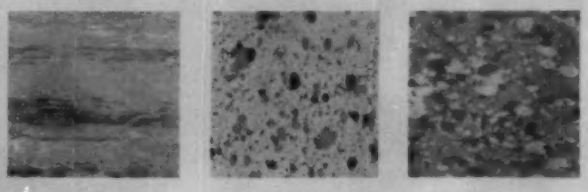
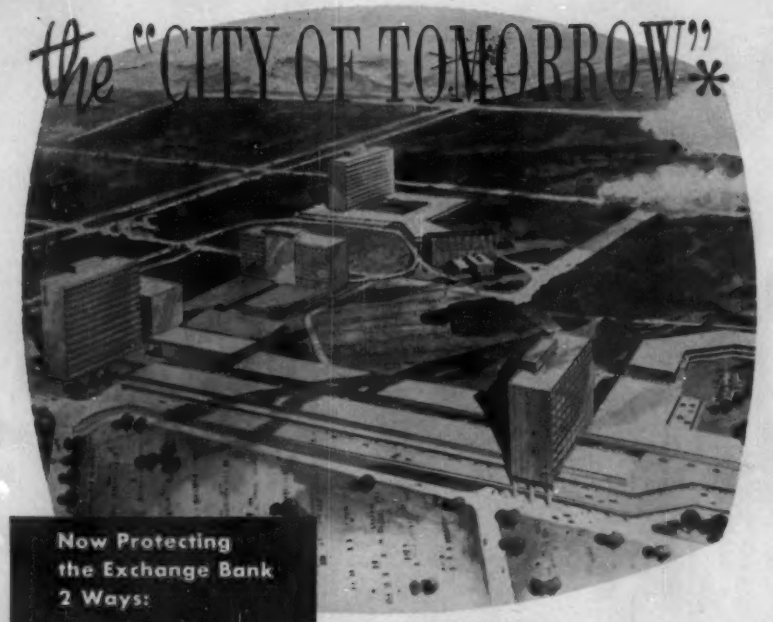
SPECIFICATIONS: 31 decorator colors. 1/8" for heavy traffic areas; 80 gage for moderate traffic areas; 1/16" for residential use. Tile size 9"x9". Use on, above or below grade on wood, concrete, marble, terrazzo or composition floors.



MARBLEIZED PATTERNS! | TERRAZZO SHADES! | CORK SHADES!

B.F.Goodrich *flooring products*



Now Protecting the Exchange Bank 2 Ways:

Sealing Around Mullion and Sill Joint in an aluminum-porcelain window wall.

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...and soon to protect the Braniff Building

*DALLAS EXCHANGE PARK
Architects, Engineers and Site Planners:
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...protected TODAY with PRESSTITE No. 1175.1 THIOKOL* LP-BASE SEALING COMPOUND

This development, right in the heart of Dallas, will cover 120 acres, provide a total of 2,394,065 sq. ft. of usable floor space and have a normal occupancy of about 25,000 persons.

In addition to four office buildings, the community will include a 1000-guest room hotel, medical research center, maintenance building, major department store and 100 retail shops.

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WANT MORE INFORMATION ?

Write for Free Users Manual

see our catalog in Sweet's ARCHITECTURAL FILE or write for copy

PRESSTITE Sealing Compounds — PRESSTITE - KEYSTONE ENGINEERING PRODUCTS COMPANY — KAP

A DIVISION OF AMERICAN-MARIETTA COMPANY
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Office Literature

Fluorescent Troffers
New eight-page catalog highlights "miniature" (5 in. wide by 4 in. deep) models in Alkco's *700 series* troffers. *Alkco Mfg. Co., 4242 Lincoln Ave., Chicago 18, Ill.*

Power Roof Ventilators
(A.I.A. 30-D-1) New selection guide features Ilg's low-silhouette line of power roof ventilators. Dimensions, capacity tables, specifications and details on accessories and protective coatings are included. 8 pp. Bulletin 2301. *Ilg Electric Ventilating Co., 2850 North Pulaski Rd., Chicago 41, Ill.**

Walker Power Raceway
Catalog 857 describes and illustrates Walker Brother's *Power Raceway*, an underfloor electrical distribution system for industrial and commercial buildings. Eight pages of dimensional drawings, and descriptions of duct, supports, junction boxes and fittings are included. 16 pp. *W. H. Taylor, Adv. Mgr., Walker Brothers, Conshohocken, Pa.*

Spero Lighting Fixtures
(A.I.A. 32-F-2) Catalog 10 includes detailed dimensional and selection data on Spero's line of reflectors, high bays, vapor proof units and flood lights. 50 pp. *The Spero Electric Corp., 20500 St. Clair Ave., Cleveland 17, Ohio*

Where to Buy
Annual directory of mills producing Douglas fir, West Coast hemlock, Western red cedar and Sitka spruce lumber also contains detailed information on lumber fabricating and treating plants in the Douglas fir region. 40 pp. *West Coast Lumbermen's Assoc., 1410 S. W. Morrison St., Portland 5, Oregon**

Technical Data Catalog
Revised catalog lists available pocket size technical data books containing concise, comprehensive information on a variety of technical subjects. *Lefax Publishers, Philadelphia 7, Pa.*

Emergency Lighting Systems
Describes UL-approved emergency lighting systems for commercial, institutional, civic and public buildings, with complete information and specifications on all components, fixtures and exit signs. 20 pp. *Standard Electric Time Co., Springfield, Mass.**

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 306

Now! CHOOSE FROM A RAINBOW OF COLOR IN LIGHTING!

A wide choice of colors, diffusing media and shapes available in one ceiling system for complete aesthetic freedom in lighting design

View of test ceiling at our plant.

Electro Silv·A·King **LUMENAREA** ceiling system

The simplest, most versatile installation system ever developed!

Here is the world's first large area lighting system that gives you practically unlimited variety of form, as well as color and diffusing media. Now you can design lighting layouts, from the conventional to the abstract, curved or straight in any combination of louver, molded forms, glass and accent lighting . . . in soft pastel pink, blue, green and white . . . in a ceiling completely free of any visible screws, bolts or mechanical devices.

And with all that, the new Electro Silv-A-King LumenAreo System incorporates Slide Adjustment and Adjusto-Lok hanging devices which adjust for spacing and depth *without tools!*

Design of our Overlap Polycube® Louver ("i" cube), on 2-ft. wide modules eliminates the necessity for crossbars, regardless of how long the run . . . also provides 45° x 45° shielding for optimum seeing comfort.

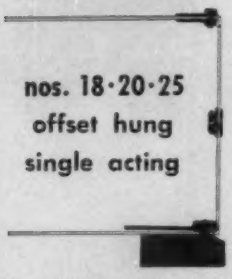
Dished plexiglas ceiling with perimeter of green "Polycube" Louvers helps give this office a distinctive appearance.

For your Free Specification and Data Bulletin, write to

Electro Silv-A-King Corporation, 1535 SO. PAULINA ST., CHICAGO 8, ILL. • SPRUCE & WATER STS., READING, PA. • REDWOOD CITY, CALIF.

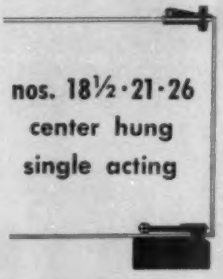
concealed floor type door closers

4 basic styles in a variety of sizes and types to meet every installation requirement



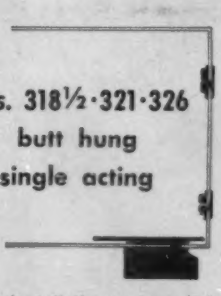
nos. 18·20·25
offset hung
single acting

Allow full unobstructed door opening space and wide door swing to 180°. Has arm locking device for vertical adjustment of door.



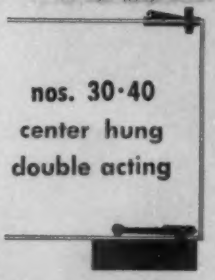
nos. 18½·21·26
center hung
single acting

Hanging hardware completely concealed. Ideal for batteries of doors. Require no mullions allowing greatest open entrance area.



nos. 318½·321·326
butt hung
single acting

For installations where it is desirable to have door hung independently from closer. RIXSON ball hinges with vertical adjustment recommended.



nos. 30·40
center hung
double acting

For doors that swing both in and out. Each swing separately adjustable to local wind and draft conditions. Completely concealed.

write for complete information and templates

THE OSCAR C. RIXSON COMPANY / ***originators of the checking floor hinge***

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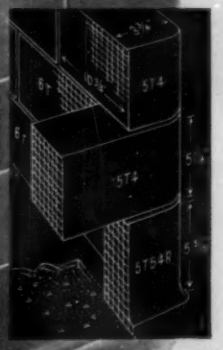
CANADIAN PLANT: 43 racine road • rexdale, ontario

imitations never match genuine

STRUCTURAL CLAY FACING TILE



THERE IS NO "SUBSTITUTE"... Only Clay Facing Tile gives your clients advantages they want in structural walls, partitions and veneers. The most economical and durable walls in the world for schools, hospitals, commercial and industrial structures. Rich, permanent colors and smooth surfaces clean sparkling new with soap and water.

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Notice how the wide lighting trough breaks up the expansive wall and adds a feeling of intimacy to the tables below.

Lodgepole Pine's workability is illustrated in the dimpled beams emphasized by indirect lighting.

"We achieved a distinctive atmosphere with Lodgepole Pine,"

says Mr. Robert E. Harrington, proprietor of Nendel's famous restaurant in Portland, Oregon

"People come back to a restaurant that has good food *and* a warm, distinctive atmosphere," says Mr. Harrington. "That's why the designer and I specified Lodgepole Pine for this new dining area." The indirect lighting, graceful fireplace and soft-textured woods create a relaxing room. The unusual dimpled effect on the beams was achieved with a ball peen hammer.

Lodgepole Pine's workability makes it ideal for special effects. It can be used for detailed mouldings, or as paneling for large surface areas. It is readily workable by hand or machine tools. Lodgepole Pine takes paint or stain with ease, or it can be waxed to show its straight grain and knotty pattern.

You will find Lodgepole Pine a practical, economical wood. Light in weight, it is easily handled and installed. It is dimensionally stable due to its low shrinkage and swelling. Sealing is unnecessary because the knots do not have a tendency to bleed resin. Lodgepole Pine resists splitting by nailing or other construction operations. It is available in sizes and patterns to fit most building needs.

For more information on Lodgepole Pine and other economical, all-purpose woods from the Western Pine Association Mills, write: WESTERN PINE ASSOCIATION, Dept. 302-U, Yeon Bldg., Portland 4, Oregon.

WPA

Western Pine Association

member mills manufacture these woods to high standards of seasoning, grading and measurement

Idaho White Pine · Ponderosa Pine · Sugar Pine
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Today's Western Pine Tree Farming Guarantees Lumber Tomorrow

Concealed comfort

(and whisper-quiet too!)

Modine Airditioners provide year-round, individual-room climate control

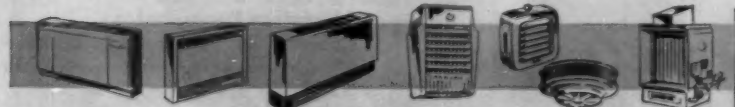
Out of sight... out of mind! Yes, after you install this Modine AIRditioner, there's nothing left to do but enjoy the personalized comfort it provides. From its concealed position, it quietly and efficiently heats, cools and dehumidifies . . . according to your exact needs.

Quiet operation results from resiliently suspended, slow-speed fan — 1050 rpm. True counter-flow coil maintains peak efficiency. And a permanently lubricated, sealed-bearing motor contributes to low-cost maintenance.

AIRditioners give you all the inherent benefits of a fan-coil unit air conditioning system. They cool with chilled water, heat with hot water — from a central source. And they can be installed with ease in both new or existing buildings.

GET FULL DETAILS on Modine's *complete line* of AIRditioners . . . console, ceiling and concealed overhead and in-the-wall (illustrated above) types — ⅗ to 2 tons. See the Modine representative listed in the yellow pages of your phone book. Or write for Bulletin 757 to Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wisconsin.

A-1364



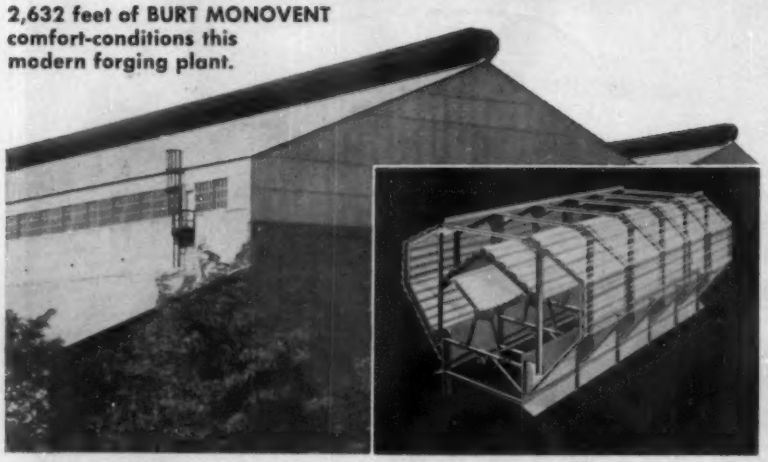
In Canada: Sarco, Ltd., Toronto

Modine
MANUFACTURING COMPANY

BURT MONOVENT GIVES YOU . . . . . .

MORE AIR FOR YOUR MONEY

2,632 feet of BURT MONOVENT comfort-conditions this modern forging plant.



- INSTALLS ON ANY TYPE ROOF
- SIZES FROM 4" to 96"
- STURDY CONSTRUCTION FOR LONG LIFE
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Where high heat or fumes dictate the removal of large volumes of air, the Burt Monovent Continuous Ridge Ventilator exhausts more air per dollar than any other type. It converts the roof ridge into a quick-acting, giant air valve that ventilates the entire structure uniformly by gravity. The Monovent is serving industry economically in continuous runs from one foot to 1,000 feet. It may be *your* best choice too.

Send for FREE *Data Book!*

Write for Burt Data Book SPV-6. It supplies quick data on Burt's efficient, low-maintenance Monovent.

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Office Literature

Pittsburgh Fluorescent Equipment
(A.I.A. 31-F-2) Bulletin 0 provides full details on the construction and installation of a new line of shallow surface mounted luminaires. Dimensional data, light curves, coefficients of utilization, and complete engineering data are also given. 8 pp. *Pittsburgh Reflector Co., 402 Oliver Bldg., Pittsburgh 22, Pa.**

Steel Doors and Frames
(A.I.A. 16-A) Charts, photographs and descriptive drawings illustrate complete *Steelcraft* line of steel doors and frames. 8 pp. *Nat Lehman, The Steelcraft Mfg. Co., 9017 Blue Ash Rd., Cincinnati 42, Ohio**

Tebco Face Brick (A.I.A. 3-F-1)
Full-color portfolio contains 16 panels of the color combinations available in *Tebco* face brick. Each panel is identified by number, color blend and name, coring and shipping weight. *Evans Brick Co., 23 Newport Ave., Uhrichsville, Ohio*

Sandwich Panel Skylights
(A.I.A. 12-J) Presents technical and design information, and construction details for *APC* plastic sandwich panel skylights. *Architectural Plastics Corp., 1355 River Rd., Eugene, Oregon*

Heating Cable
Revised Bulletin 19-457 gives up-to-date product information and specification data on heating cables, and discusses their application and installation. 9 pp. *Construction Materials Div., General Electric Co., Bridgeport 2, Conn.**

Forced Air Gas Furnaces
(A.I.A. 30-B-1) Six-page catalog covers applications, features, ratings and specifications for the *Clipper* line of forced air gas furnaces. Also included is the *Barnes* line of single, dual and half dual gas floor furnaces. *Tamco Corp., 1005 A St., San Rafael, Calif.*

Typical Lumber Designs
(A.I.A. 19-B) Lists over 300 typical designs for timber structures, with quantities and material lists for light and heavy frame structures. 16 pp. *Timber Engineering Co., 1319 18th St. N.W., Washington 6, D. C.**

Literature Requested
Robert E. Peterson, Architect, 409-410 Piedmont Bldg., Greensboro, N. C.

**Additional product information in Sweet's Architectural File, 1958*

World's Fastest Paint!

(VINYL–ODORLESS)

assures

SAME-DAY OCCUPANCY

for all public rooms

With this new paint it is easy to finish any room within a few hours. Painters and maintenance men are of one mind—Devoe WONDER-TONES is truly *the paint that has everything!*

Here's why:

- extremely wide choice of modern colors
- superior vinyl paint film . . . can be thoroughly scrubbed when dry
- completely odorless
- no lap marks, "boundary lines" or touch-ups
- dries in twenty minutes
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- gives up to 500 square feet of coverage per gallon
- remarkable one-coat hiding efficiency . . . on plaster walls, woodwork, wallpaper and interior masonry

Devoe Vinyl Wonder-Tones is rated No. 1 for all-round quality by a leading consumer testing organization.* *Name furnished on request.

GUARANTEE:

If Devoe Vinyl WONDER-TONES fails to do everything we say it will do, the purchase price will be gladly refunded.

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Gentlemen: Send me your FREE Color guide booklets.

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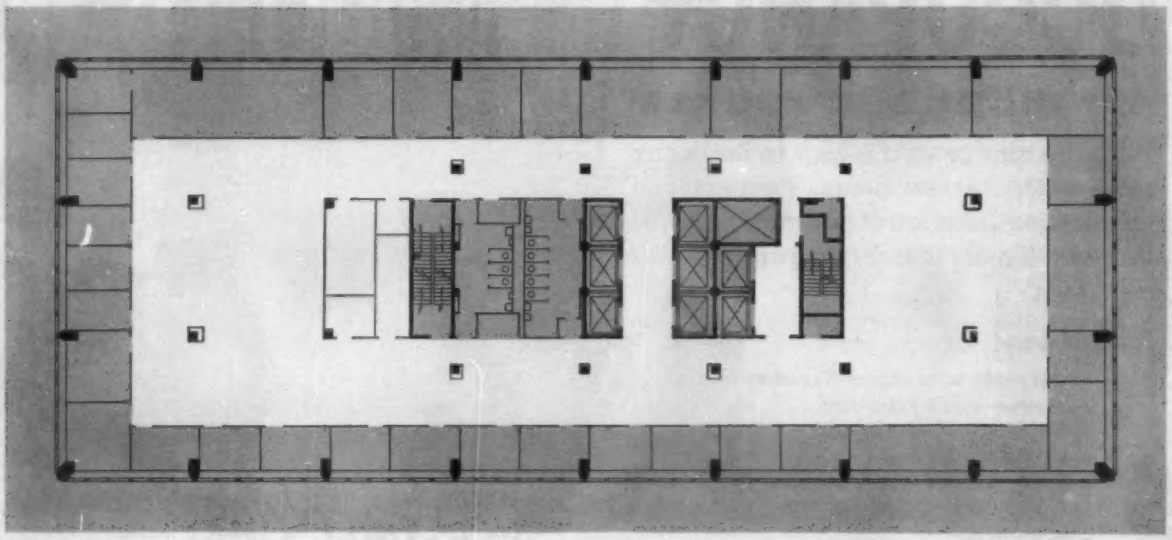
Which is the best way to air condition interior areas of an office building?



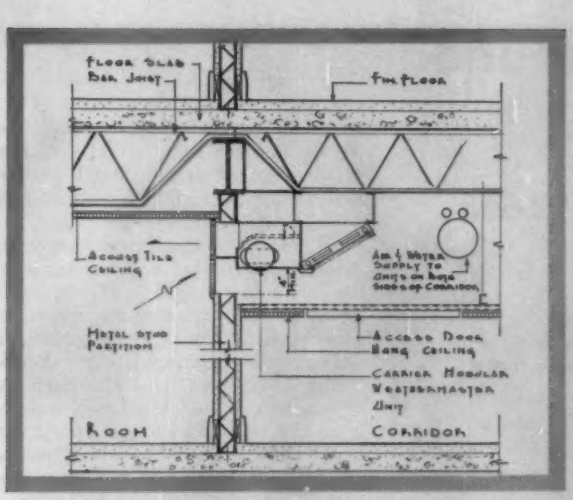
That depends on the amount of heat generated within the interior areas. In most Class A office buildings this heat load is increasing. It is moving up year after year because of the greater use of electronic office equipment and more intense lighting.

This trend should be considered when planning air conditioning both for new and existing buildings. Recent studies prove that it is more economical to use the new air-water Carrier Horizontal Weathermaster* System than any type of all-air system to handle higher heat loads in interior zones. This new Carrier method saves space, costs less to own and less to operate because water is 250 times more effective than air, by volume, in removing heat. In addition, it is capable of handling increasing heat loads as they develop, without costly system changes.

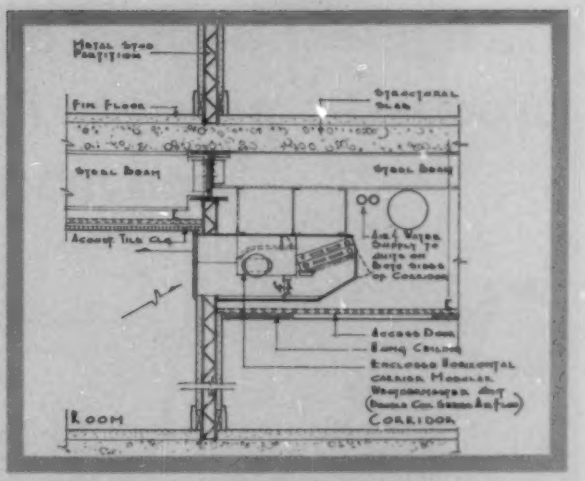
The Horizontal Weathermaster Units adapt readily to any interior situation. On the page at right are six typical arrangements—and there are many more. For complete information, call your nearest Carrier office. Or write Carrier Corporation, Syracuse, New York.

*Reg. U.S. Pat. Off.

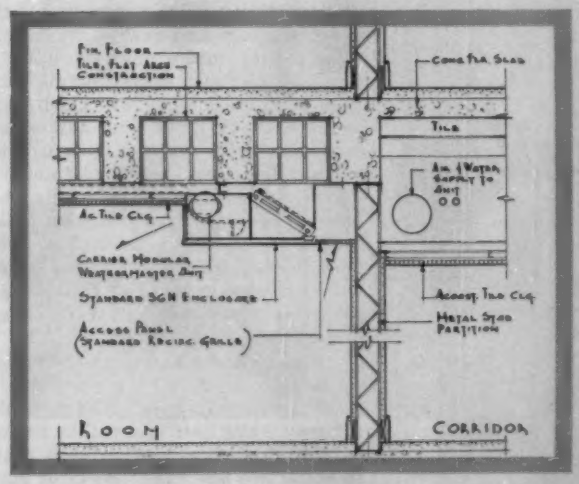
Carrier Air Conditioning · Refrigeration · Industrial Heating



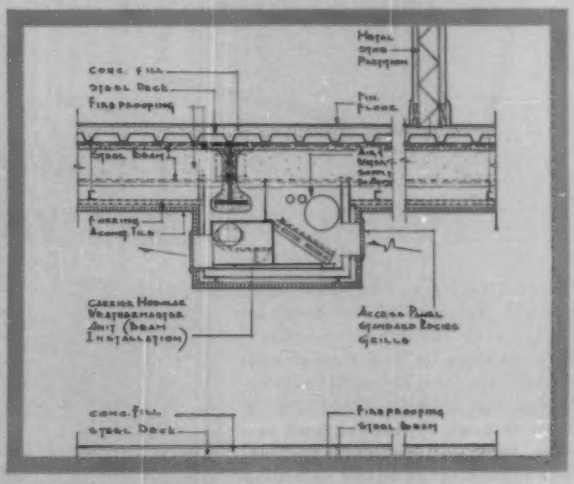
Corridor installation with the unit, supply air conduit and water services concealed above hung ceiling.



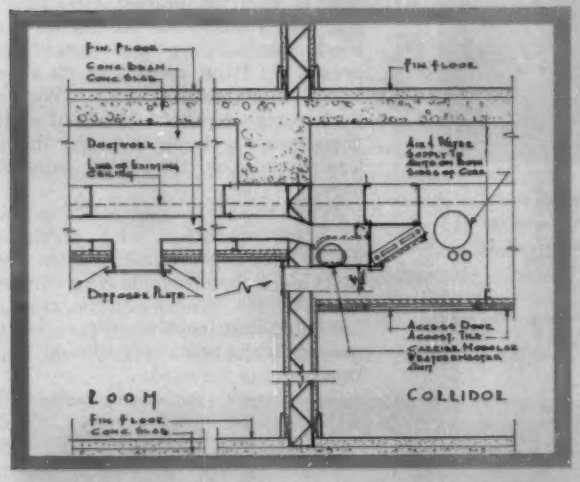
Corridor installation featuring twin coils for extra capacity. Enclosed unit prevents cross circulation.



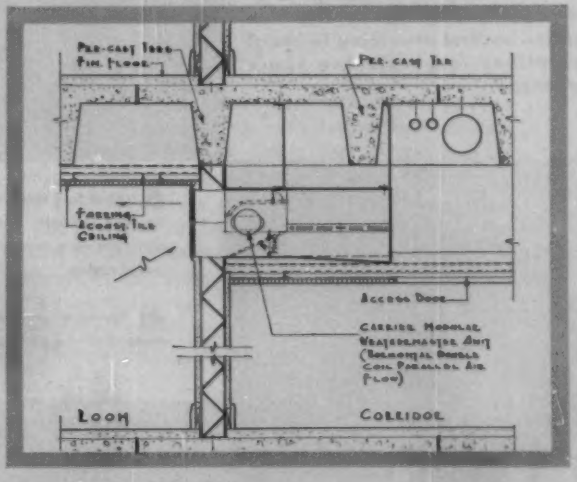
In-the-space installation with standard unit and standard enclosure eliminating need for furring-in.



In-the-space installation where structural framing requires unit be tightly fitted against fireproof beam.



Corridor installation using short duct from unit to standard diffuser plate outlet for ceiling distribution.



Corridor installation featuring twin coils in parallel mounting to attain extra high cooling capacity.

"...highest degree of sound proofness possible in a movable wall"

— from a letter by A. Joe Crocy, Vice-President, The DINKLER-PLAZA, Atlanta. Alexander & Rothschild, Arch.

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In the Dinkler-Plaza banquet room, Unitfold Walls are used to create as many as six separate areas. Sound between these rooms is blocked with the efficiency of a 10" to 12" plaster-coated SOLID BRICK WALL. This is done through double-run wall sections, lined with acoustical material and separated by sound retarding dead-air space.

All Fairhurst Walls are solid, rigid, with virtually unlimited choice of decor. Write Dept. AR for free illustrated booklet describing Fairhurst solutions to perplexing space problems.

Units fold compactly to one side at the Dinkler-Plaza. Possible variations allow complete concealment of wall in special pockets.

Handsome grained veneers give the appearance of a permanent wall.

John T. Fairhurst Co., Inc.
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FAIRHURST . . . First Name in Folding Walls

A Washington Report

continued from page 32

of all factors into one overall probability. It assumed that the runway length should not in itself prevent accomplishment of a year-around average load factor of 85 per cent.

Much study was given to runway widths required for jet operations. Experiments disclosed that over 95 per cent of usage is concentrated in the central 60 ft of runway, regardless of operating conditions. Considering all factors, plus the narrower character of jet transport landing gears, it was decided that 150-ft runway widths are adequate. Orientation studies were carried out in some detail.

On runway thickness, Mr. Rhoades testified: "We finally have concluded that there is no sharp demarcation between a pavement thickness which is satisfactory and one which is not. The type of subsoil and the quality of materials used appear to be factors, the importance of which can equal that of pavement thickness. Available data and opinion seem to support the conclusion that runways which are capable of accepting the larger current aircraft are suitable for jet transport operation. The date upon which future runway repairs will be necessary will be a function of the present strength and the amount of usage."

Other conclusions reported by Mr. Rhoades:

"Where less than 125 ft of suitable taxiway width exists, it will be necessary to add shoulders on each edge to make not less than 125 ft of surfaced area available. . . . Shoulders are necessary to decrease the probability of engine damage by foreign objects such as stones, etc., which might be sucked into the engine if it were overhanging an unsurfaced area. . . . High speed turnoffs from runways are desirable. . . . We expect to require about 240 ft of additional runway to cater to the thrust loss caused by the noise suppressors."

While the airlines expect to be able to start operation with airplanes which have noise characteristics very little more objectionable than current aircraft, the symposium statements indicated that much more research is needed in the noise control field. And this is going forward.

In a more optimistic vein, Mr. Rhoades said: "We haven't yet solved all our airport problems, but we do feel that we can carry on a reasonable operation . . . until the airports can be made more nearly adequate."

JOSIAH WILLARD GIBBS LABORATORY, YALE UNIVERSITY

Office of Douglas Orr, Paul Schweiker, Architects;
Henry Pfisterer, Structural Engineer;
Meyer, Strong & Jones, Mechanical Engineers;
George B. H. Macomber, General Contractor.

HOPE'S CUSTOM STEEL WINDOWS
IN MODULAR ASSEMBLY

In this university building the reinforced concrete structure was developed around a basic laboratory module of 12′ by 20′ with concrete columns left exposed. Movable partitions accommodate for changing projects in faculty and graduate research.

Curtain walls along the building's east and west walls are steel framed into which glass, enameled-steel panels and Hope's heavy intermediate projected and awning type windows were installed.

Experience over the past decade with Hope's Window Walls has given architects complete confidence in Hope's layouts, specifications and details. Speedy construction, labor-saving installation, low maintenance cost, many extra square feet of usable floor space, and structural economies which carry right down to the footings, are some of the owner benefits.

The flexibility of Hope's Windows in layout, makes it easy for the building designer to meet interior requirements for daylight and either natural ventilation or air conditioning. You are invited to use Hope's engineering assistance. For further information, write for Hope's catalog 158

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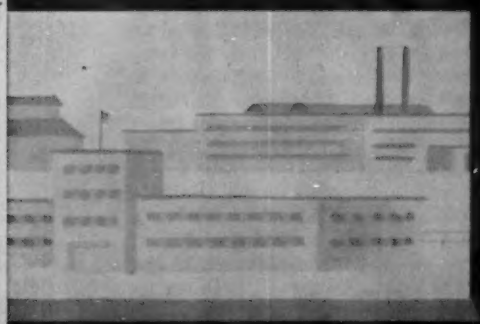
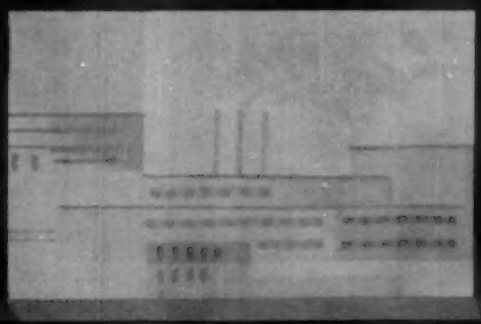
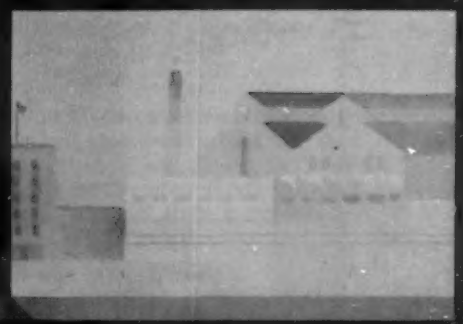

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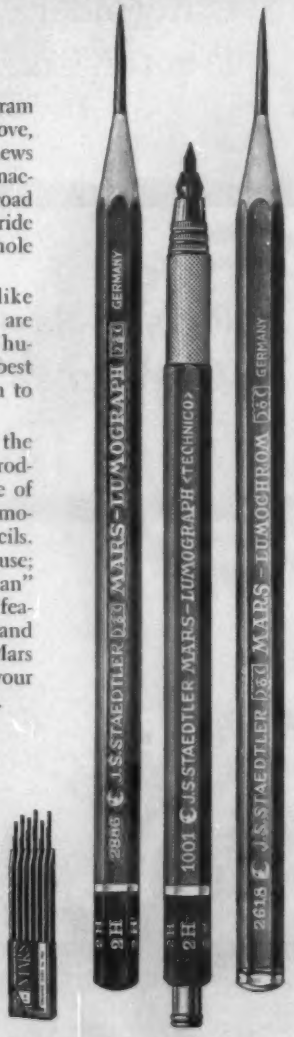
Tomorrow's roads may be squeezed out like toothpaste, but outstanding ideas for tomorrow are still produced in the old-fashioned, painstaking, human way. And only professionals know how the best in drafting tools can smooth the way from dream to practical project.

In pencils, of course, that means Mars, long the standard of professionals. Some outstanding new products have recently been added to the famous line of Mars-Technico push-button holders and leads, Lumograph pencils, and Tradition-Aquarell painting pencils. These include the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman" pencil sharpener with the adjustable point-length feature; Mars Lumochrom, the color-drafting pencils and leads that make color-coding possible; the new Mars Non-Print pencils and leads that "drop out" your notes and sketches when drawings are reproduced.



The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom color-drafting pencil, 24 colors.

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HACKENSACK, NEW JERSEY

at all good engineering and drawing material suppliers

News from Canada

continued from page 46

The 16,000-member organization is the licensing authority for engineers in the province and is the largest professional organization of its kind in Canada.

Governing body is an executive council which includes two councilors elected by each of the body's five branches and one other appointed by the Lieutenant Governor-in-Council. They are:

Civil branch—T. N. Carter and R. A. Weir, both of Toronto. V. S. Murray of Toronto is the appointed councilor.

Chemical and metallurgical—P. E. Cavanagh, Toronto, and E. P. Lewis, Sarnia. Appointed, D. S. Simmons, Toronto.

Electrical—R. L. Hicks, Toronto, and John W. Holmes, Peterboro. Appointed, J. H. Smith, Toronto.

Mechanical, aeronautical and industrial—D. L. Angus, Toronto, and L. C. Sentance, Hamilton. Appointed, Dr. G. R. Lord, Toronto.

Mining: Marc Boyer, deputy-minister, Federal Department of Mines and Technical Surveys, Ottawa, and M. L. Urquhart, Toronto. Appointed, Dr. G. B. Langford, Toronto.

T. M. Medland is executive director of the A.P.E.O.; J. M. Muir, registrar; T. C. Keefer, field secretary, and B. H. Goodings, field representative: all of Toronto.

News Notes

For two successive years Canada's architects and engineers have reported the BIGGEST AVERAGE INCOMES of any occupational group. In 1955, Department of National Revenue statistics show that they paid tax on an average income of $14,007, up from the year before's $12,059. Lawyers in second place averaged $12,243 ($11,925 in 1954), followed closely by doctors with an average $12,166 ($11,891). . . . A management group to handle arrangements for the 1958 ASSEMBLY OF THE R.A.I.C. has been set up under the co-chairmanship of H. A. I. Valentine, Montreal, and Gerard Venne, Quebec City. Dates are June 11-14, with the new Queen Elizabeth Hotel in Montreal as the setting. . . . C. J. G. CARROLL, who resigned last fall after serving nearly seven years as secretary of the R.A.I.C., has returned to Ottawa following a lengthy holiday abroad. . . . Ranks of the engineering profession will be augmented by some 2130 young ENGINEER GRADUATES of Canadian universities this

THE MARK OF QUALITY

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Now Barcol helps you predict how much each OVERdoor feature will cut plant's operating cost!

BOOKLET OFFERED BELOW ILLUSTRATES METHOD ✱

Copper and Brass Sales, Inc., Detroit, Michigan. Contractor: Perron Construction Co. Architects: Giffels and Rossetti.

Builders and architects readily identify *three ways* Barcol OVERdoor installations cut plant operating costs:

1. Barcol Cam Action closing hardware gives a tighter air seal than conventional wedge-type closing hardware . . . *reduces cost of heating and cooling space inside.*

2. New Barcol WEATHER-KING Flush Door Sections are guaranteed weatherproof and have a U factor of .257 — twice the insulation value of a 12" poured concrete wall — three times the insulation value of ordinary door panels! Combined with Cam Action closing, these new sections *materially add to savings on heating and cooling.*

3. Barcol Electric Operators applied to both exterior and interior doors and gates *eliminate costly starts and stops* in plant traffic and *save many man-hours annually* by freeing workers from nonproductive opening and closing of doors.

Now the Barcol engineers can predetermine the average amount of each of these savings, and the method is ready for use on your present door problems. Variables like local average weather conditions and intended use of each door are realistically applied. In many cases it can be predicted that these features will pay for themselves in two years or less through measurable *extra* plant economies. In other cases the tests show whether or not a feature of the installation is economical. Ask your Barcol distributor (under "Doors" in the phone book) for a savings estimate on your present project or use the coupon on the right.

✱ **SEND** for this new 8-page booklet demonstrating through specific case material the method by which your Barcol distributor helps you predict *how much* OVERdoor features can reduce heating costs and save on labor. Also describes and illustrates Barcol Cam Action, WEATHER-KING Flush Doors, and Electric Operators — features that, in many areas, can now be *proved* to pay for themselves in as little as two years through measurable direct savings.

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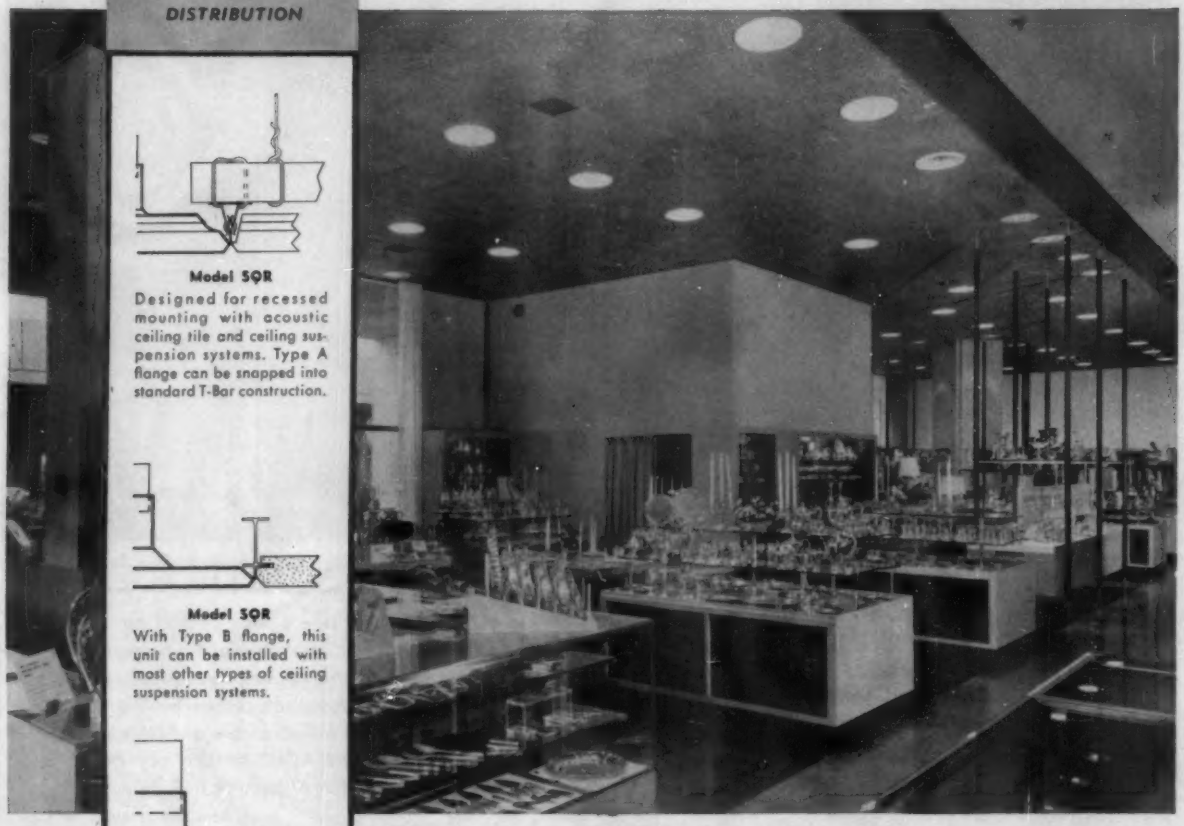
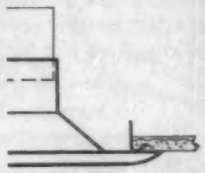


Model SQR
Designed for recessed mounting with acoustic ceiling tile and ceiling suspension systems. Type A flange can be snapped into standard T-Bar construction.

Model SQR
With Type B flange, this unit can be installed with most other types of ceiling suspension systems.



Model SQS
Provides a one-inch flange to cover opening irregularities — can be used with any type of ceiling.

Designed for optimum performance while remaining unobtrusive, Uni-Flo Square and Rectangular Ceiling Diffusers provide rapid diffusion at low sound level. Draft-free delivery guaranteed when used in accordance with published data. Ceiling smudge minimized. Contact your nearby Barber-Colman field office or write for Catalog F 6597-1. For best results, specify combined Air Distribution and Automatic Controls by Barber-Colman.

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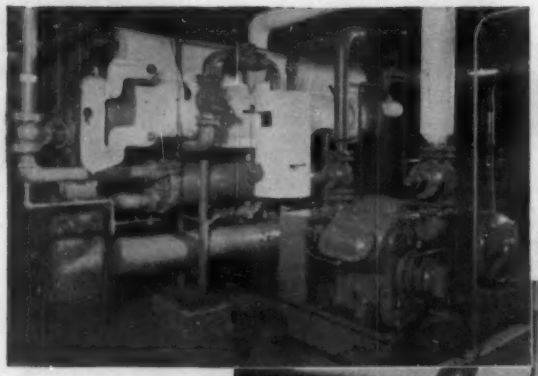
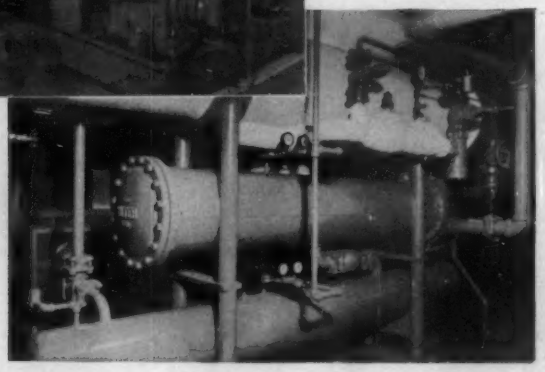


This Vilter air conditioning plant consists of a Freon shell and tube water chiller, shell and tube condenser, liquid receiver and a six-cylinder Freon VMC compressor, all installed in the Southwestern Bell Telephone Co., Olathe, Kansas.

Close-up view of Vilter condenser. Chiller is above. Receiver is below.



Custom-made CLIMATE

for busy office and toll switchboard

Vilter has brought the latest in "custom climate" air conditioning to the general offices and toll switchboard of the Southwestern Bell Telephone Company, Olathe, Kansas. Happier employees and more efficient operation is the satisfying result. Vilter equipment includes a: 6-cylinder Freon VMC compressor, 16" x 10' water cooler, 16" x 7' shell and tube condenser, 12" x 10' receiver.

All components in a Vilter air conditioning system incorporate the latest in engineering skill and industry practice. VMC compressors offer maximum capacity in a minimum of space. Built-in capacity reduction permits automatic operation at reduced loads with consequent power savings. Vilter's wide range of shell and tube equipment is right in performance and right in price.

Vilter also offers a completely "packaged" water cooler—the Vilter Uni-Chiller. Shop assembled for lower first cost, the Uni-Chiller offers space-saving design, simple installation and requires a minimum of maintenance.

You, too, can have all the advantages of modern air conditioning and refrigeration—specify Vilter.

Equipment furnished by O'Dwyer Engineering Company, Vilter Distributor in Kansas City, Missouri. Mechanical Contractor, U. S. Engineering Company, Kansas City, Missouri.

Write for these helpful bulletins to The Vilter Manufacturing Company Dept. O-715, 2217 S. First Street, Milwaukee 7, Wisconsin

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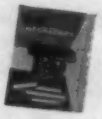

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Bulletin 429
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News from Canada

spring. Increase is expected to be almost 17 per cent over last year, according to an Engineering Institute of Canada survey. . . . Two QUEBEC ARCHITECTS were among the M.P.'s who took their seats at the last session of Parliament. They are Wilfrid Lacroix (Liberal) and John Pratt (Progressive-Conservative) representing the ridings of Montmorency and Jacques Cartier-LaSalle, respectively. . . . The ARCHITECTURAL INSTITUTE OF B.C. now has 211 members. Of these, three are women: Mrs. Leonora Markovich of Vancouver, Miss Marjory Hill of Victoria, and Mrs. Ilsa Williams of Nelson. Newly appointed registrar of the Architectural Institute of B.C. is Leonard A. Humphrey of Vancouver . . . Louis N. Audet, Sherbrooke architect, has been created a KNIGHT OF THE ORDER OF ST. SYLVESTRE for his work in connection with religious institutions. . . . Regina Chapter, SASKATCHEWAN ASSOCIATION OF ARCHITECTS, is sponsoring jointly with the Regina Builders' Exchange a course on plan reading and specification interpretation. Lecturers are being provided by local architectural firms. . . . First prize winner in the architects' sign competition sponsored by by P.Q.A.A. was Jacques Langlois. Denis Lamarre and A. T. Galt Durnford carried off second and third prizes, respectively. . . . The COMMITTEE ON DIMENSIONAL COORDINATION, O.A.A., is conducting a course on modular drafting at the Ryerson Institute of Technology, Toronto. . . . At its recent annual meeting, the CANADIAN SOCIETY OF LANDSCAPE ARCHITECTS AND TOWN PLANNERS elected Gordon Culham president; J. V. Stenson, vice president, and Donald Pettit, recording secretary-treasurer. . . . PROF. H. H. MADILL, recently retired director of the School of Architecture, University of Toronto, has been elected an Honorary Fellow of the American Institute of Architects. . . . Architects should collect their FEES FOR RESIDENTIAL WORK at the discussion and planning stage, says Randolph C. Betts, prominent Montreal architect. The client would thus be made to realize, Mr. Betts believes, that he is paying for experience and ideas, not merely "blueprints". . . . Donald Wagg has been elected president of VANCOUVER ISLAND Chapter, Architectural Institute of B.C., succeeding Ian Simpson. John Armour is the new vice president and Mr. Simpson is the new secretary.

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AT NEW YORK INTERNATIONAL AIRPORT

CURTAIN-WALL PANELS FLOAT IN RESILIENT

In designing the new International Arrival Building for the Port of New York Authority, the architects sought an economical sealing system that would insure a permanent airtight and watertight installation of the plate and spandrel glass panels.

The dry sealing system specified by Skidmore, Owings & Merrill employs gaskets of Du Pont neoprene synthetic rubber. U-shaped extrusions of neoprene are supplied as completely fabricated rectangular gaskets which are easily snapped onto each panel—protecting both glass and glaziers' hands when the panel is set in the frame. Screwing on a pressure stop is the third and final step in panel installation. The time required for these steps is a matter of minutes. The neoprene seal remains resilient under compression and permits the glass to move under wind pressure and thermal changes.

Neoprene's resilience assures permanent retention of sealing pressure . . . and because neoprene has exceptional resistance to sunlight and weathering, long exposure will not cause gasket failure. These two factors have been responsible for its dependability in many installations.

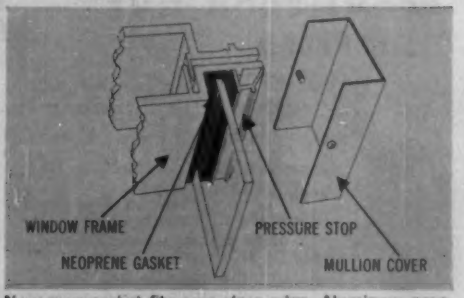
Mail the coupon for a list of gasket suppliers and your copy of "The Du Pont Elastomers" containing data on the properties and uses of neoprene and HYPALON®, Du Pont's newest synthetic rubber.

Glazing and panel installation is a simple 3-step job

1 One-piece neoprene gasket is snapped over glass panel edges

2 Gasketed panel is set onto aluminum frame

3 Pressure stop is screwed down to make a tight seal



Neoprene gasket fits over glass edge. Aluminum pressure stop covers the gasket and is bolted into the window frame. Mullion cap covers the joint. Result: a tight, leakproof but resilient seal.

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continued from page 16

students of Gropius or Le Corbusier.

Ironically, most of the new-type designs are reminiscent of one of the earliest phases of Soviet architecture. In the 1920's and early 1930's "functional" building styles achieved a certain degree of popularity in Russia. That was the period when many foreign technicians and engineers were hired by the Soviets to aid industrial expansion. In major Russian cities a number of steel, glass and concrete structures appeared which clearly reflected Bauhaus influence.

Then came a sharp reaction as Stalin expelled the foreign advisers and instituted ruthless purges which struck down many of the more sophisticated and independent personalities in the Communist ranks. Modernist structures quickly were lost in a deluge of highly-ornamented neoclassical construction, and the world became painfully familiar with the clumsy and archaic style known as "Stalinist baroque," typified by the Moscow skyscrapers with their gingerbread trimmings.

It was not until some time after the death of Stalin that signs began to appear heralding a new change in Soviet architecture. In the summer of 1954, the government began an ambitious drive to increase the efficiency of the construction industry through the use of prefabricated concrete units. Later in the year a Moscow conference of building workers heard party-secretary Krushchev denounce Soviet architects for their wasteful use of towers, porticos and ornamented facades.

The trend toward a "New Look" was accelerated during the Geneva summer of 1955 when delegations of Russian building experts visited the United States, Sweden and Great Britain. In November 1955, a government statement lashed out at the "flashy ornamentation" and the "archaic appearance" of Soviet structures. Architects from all over the U.S.S.R. were summoned to a Moscow conference where they were advised to study the achievements of foreign builders and designers.

Then cartoons were published in *Krokodil* lampooning long-revered Stalinist fashions. One cartoon depicted a neoclassical building marred by a row of ridiculous statuary along the roof representing all sorts of athletes in action; another showed how absurd a city would look if buses, autos, trains and even airplanes carried the same type of Victorian gingerbread found on Soviet buildings.

Early in 1956, well-illustrated articles on foreign architecture began to be featured in the Russian journals. The list of projects covered would have met with approval from any Western expert—for example, the U.N. building and Lever House in the United States, the colorful new campus of the University of Mexico, modern English schools, reconstruction in Le Havre and even propaganda-motivated structures in West Berlin.

Slowly the impact of developments has made itself felt in Soviet blueprints. The use of trite ornamentation has decreased, glass surfaces have become more extensive, stylistic lines have become more simple and direct. And the most recent designs show acceptance of some of the bold forms of modern functional architecture.

If the plans of today's architects are translated into action during the next few years, we should see a drastic change in the Soviet scene.

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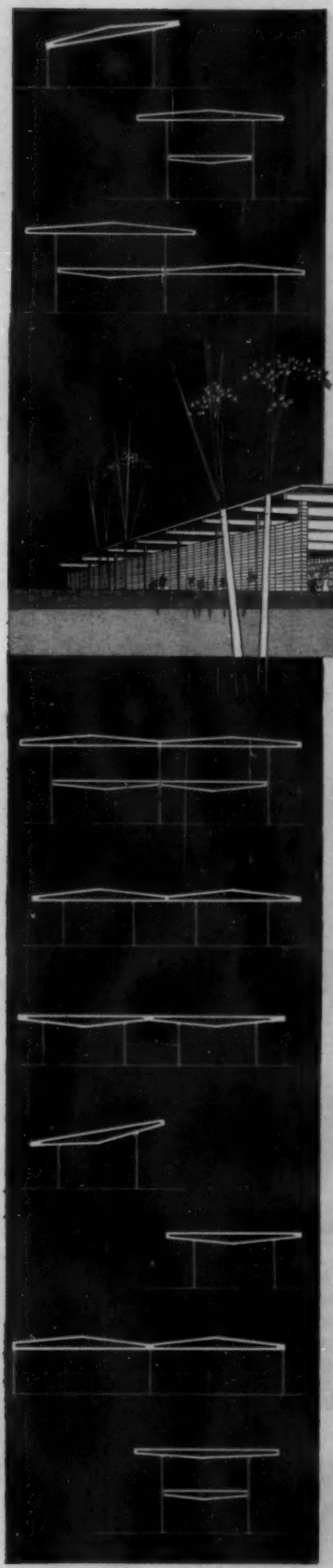

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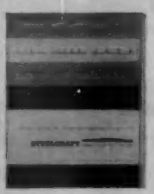

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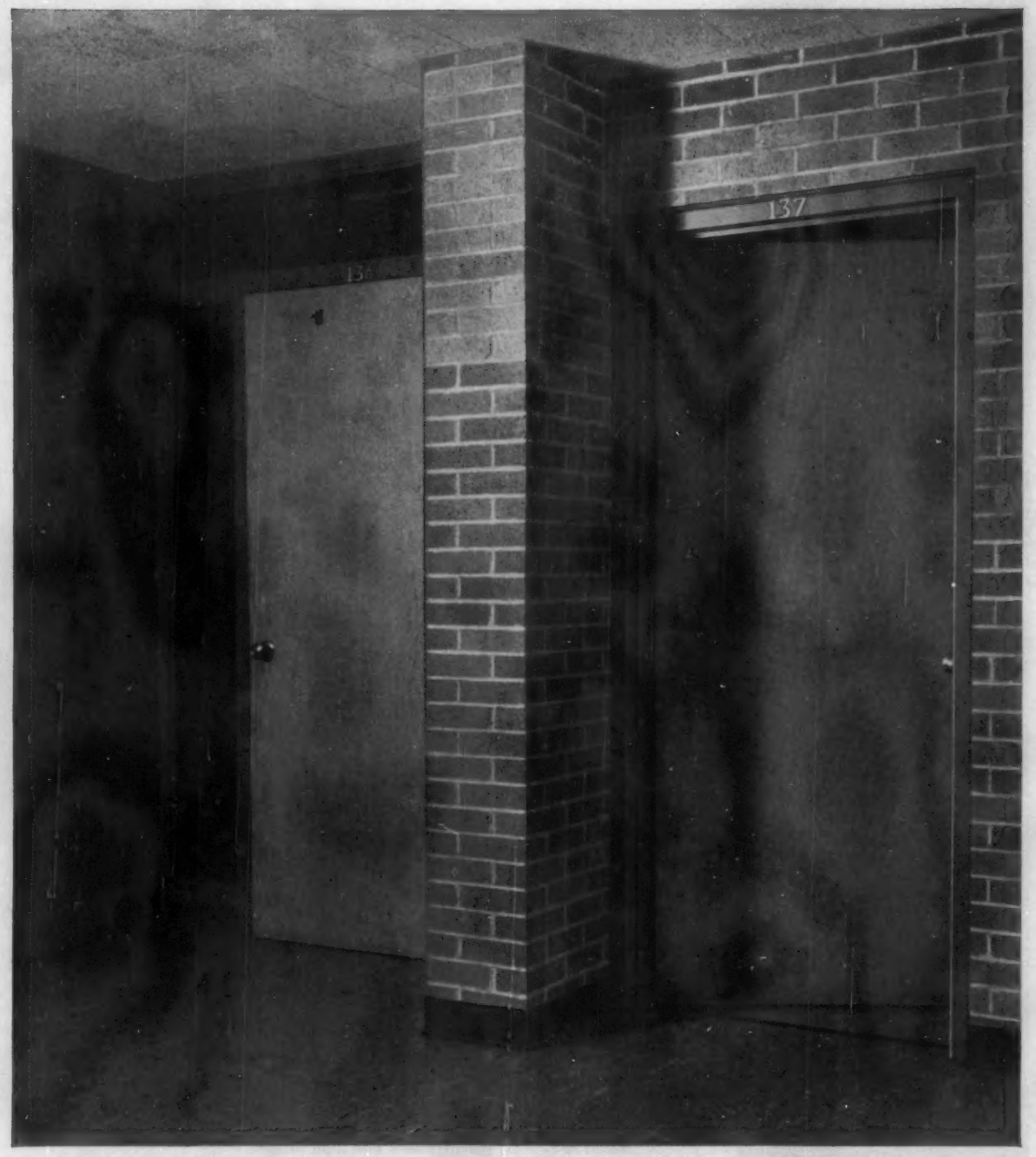

As durable as they are beautiful, these Curtis New Londoner hollow-core flush doors, and Curtis American solid-core flush doors, shown installed in a classroom of the South Campus Building, Lyons Township High School, La Grange, Illinois, help create a pleasing school environment while they withstand the wear and tear of constant use. Door face panels are carefully grain-matched to provide pleasing "pictures in wood." Perkins & Will, Chicago, architects.

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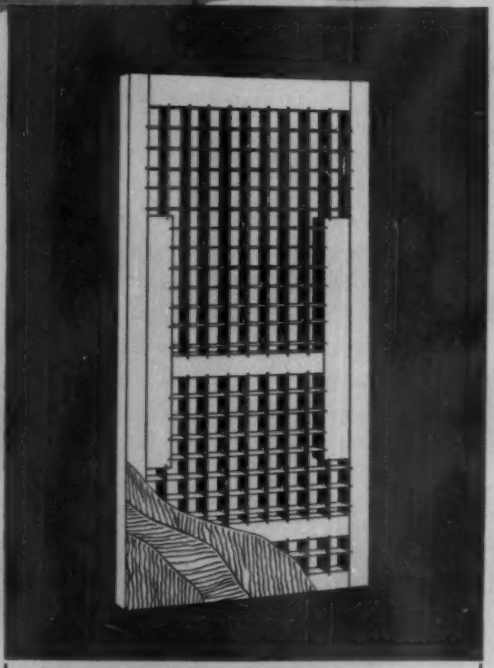

Curtis New Londoner institutional doors combine the light weight and economy of hollow-core construction with extra heavy stiles, rails and crash and kick plate rails. Doors accommodate all types of institutional hardware.

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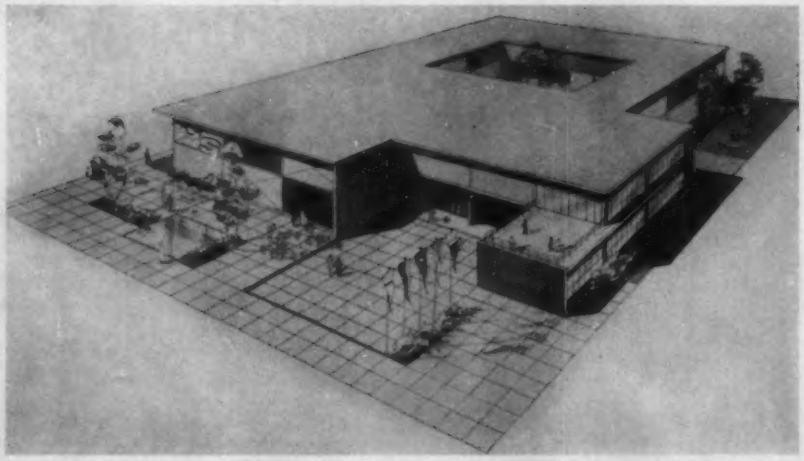
Design, Construction Are Themes Of U. S. Pavilion at Vienna

For the Vienna International Autumn Fair, the U. S. Pavilion took for its theme "America Builds," and was built around an exhibit of American building as art and as technique.

Most of the architectural displays included had been viewed already in this country: they included the 1957 awards of the American Institute of Architects and an exhibition of San Francisco Bay domestic architecture arranged by the Smithsonian Institution, the North California Chapter of the American Institute of Architects and the California Redwood Association. Also on view were models of current urban design proposals —almost the first thing to be seen by visitors was a four-ft model of Skidmore, Owings & Merrill's design for the Chase Manhattan Bank's headquarters—and a full-scale vacation house from the magazine *Living for Young Homemakers.*



Construction techniques were shown in the vacation house, where construction was left partially exposed, and in a full-scale apartment section, where a building crew carried out demonstrations during the fair. Included in the office building display was a section of the aluminum curtain wall used in the Alcoa Building. The pavilion itself, designed by industrial designers Walter Dorwin Teague Associates, utilized a number of kinds of wall panels. (Teague Associates also selected and designed the exhibit for the Department of Commerce's trade fairs section.)

At Zagreb: U. S. pavilion for Zagreb Trade Fair, held in Yugoslavia last fall, was built for post-fair leasing, and eventual acquisition, by the Yugoslav government. Exterior of V-beam aluminum louvers was designed to take advantage of natural ventilation in a hot country without air conditioning; weight of the entire louver section was 72 lbs. Walter Dorwin Teague Associates were designers

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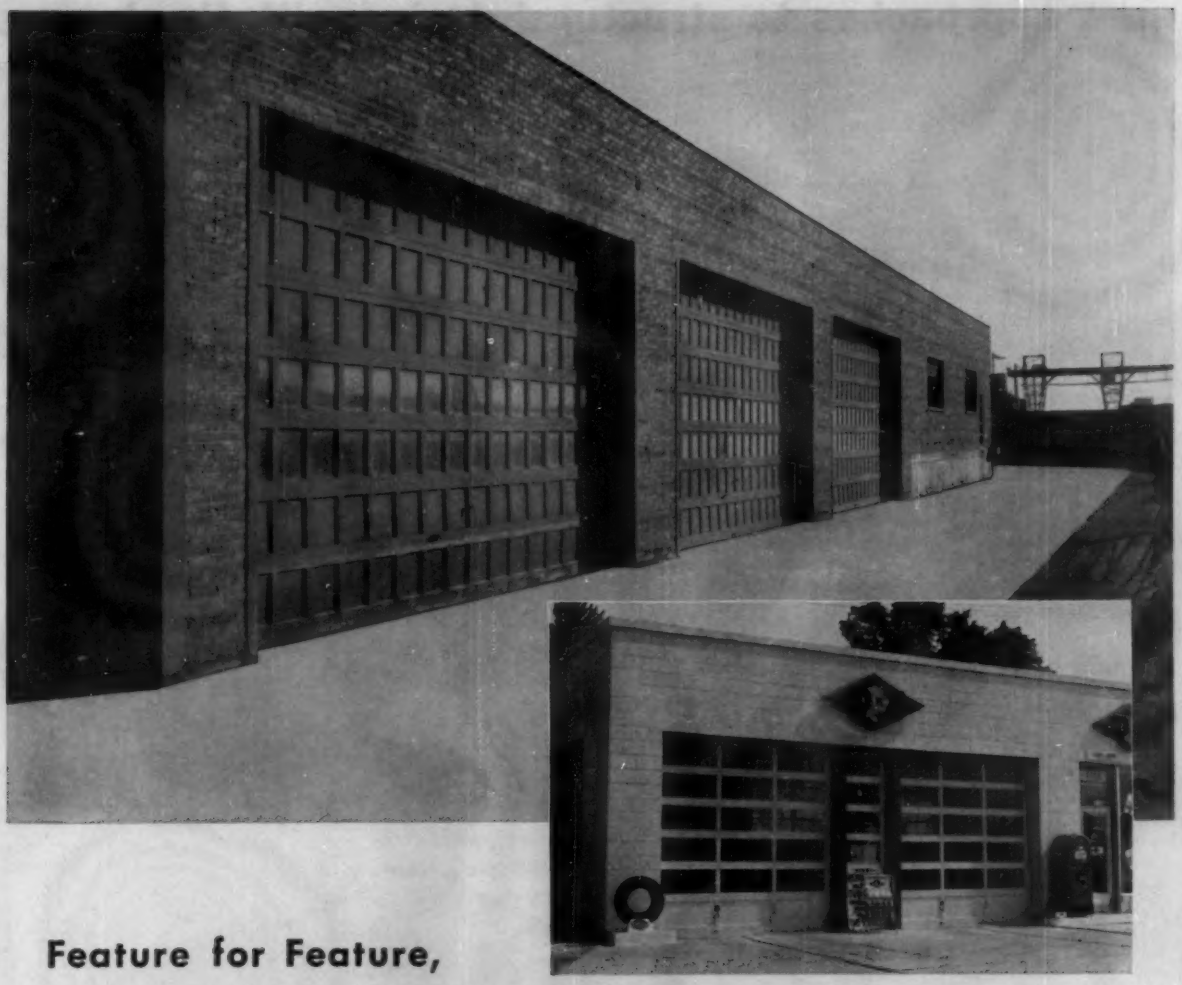

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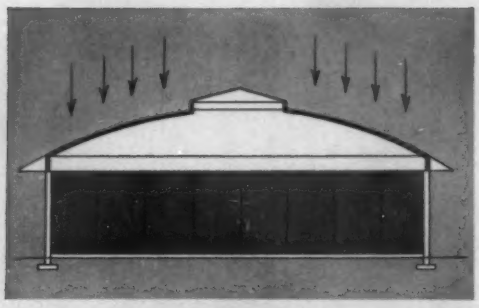


Engineering tests by Douglas Fir Plywood Association showed vault resists three-times-normal roof load. Deflection at midspan was negligible. Note how door-high roof line saves wall area.

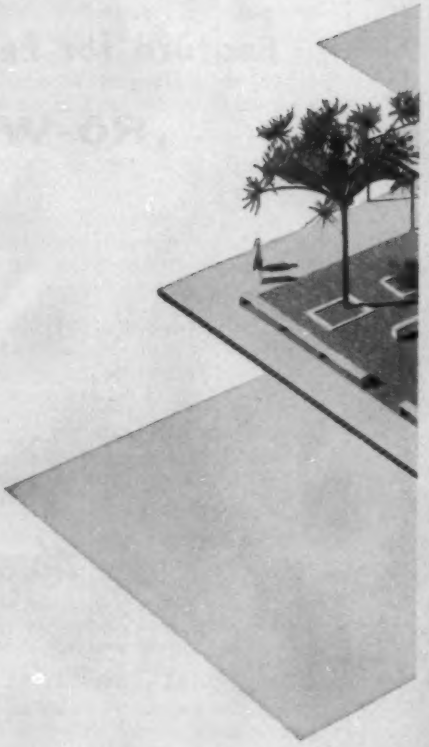
FIR PLYWOOD

ARCHITECT: Robert B. Price, A.I.A., Tacoma, Wash.
Robert C. Wing, Consulting Engineer

IN THIS graceful stressed-skin fir plywood domical roof, Architect Price has developed a simple and precisely engineered unit that combines beams, purlins and roof sheathing.

The first application of this new semi-spherical roof system is in the four-room satellite school shown at right. In its design, Price sought to create "an exciting and stimulating space with a high degree of flexibility and substantial construction economies."

Adaptable to other types of buildings, the Price roof system is a logical design evolution in which lightweight fir plywood replaces heavier and costlier materials. It provides a long, post-free span, pleasing mass and profile, has excellent lighting, insulation and acoustical properties.



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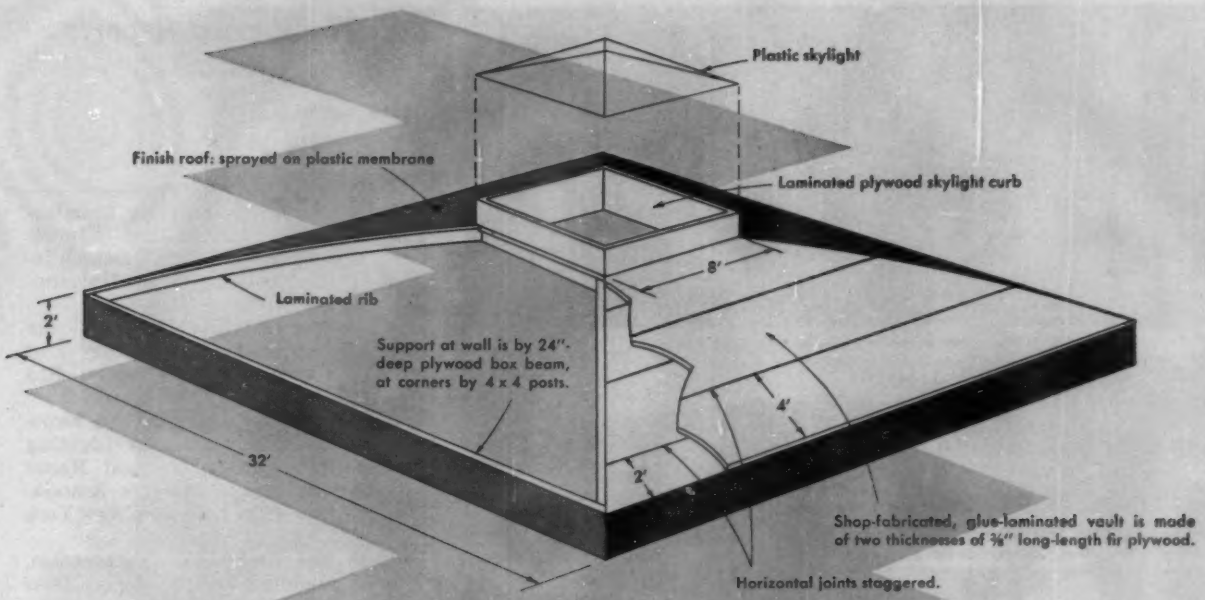
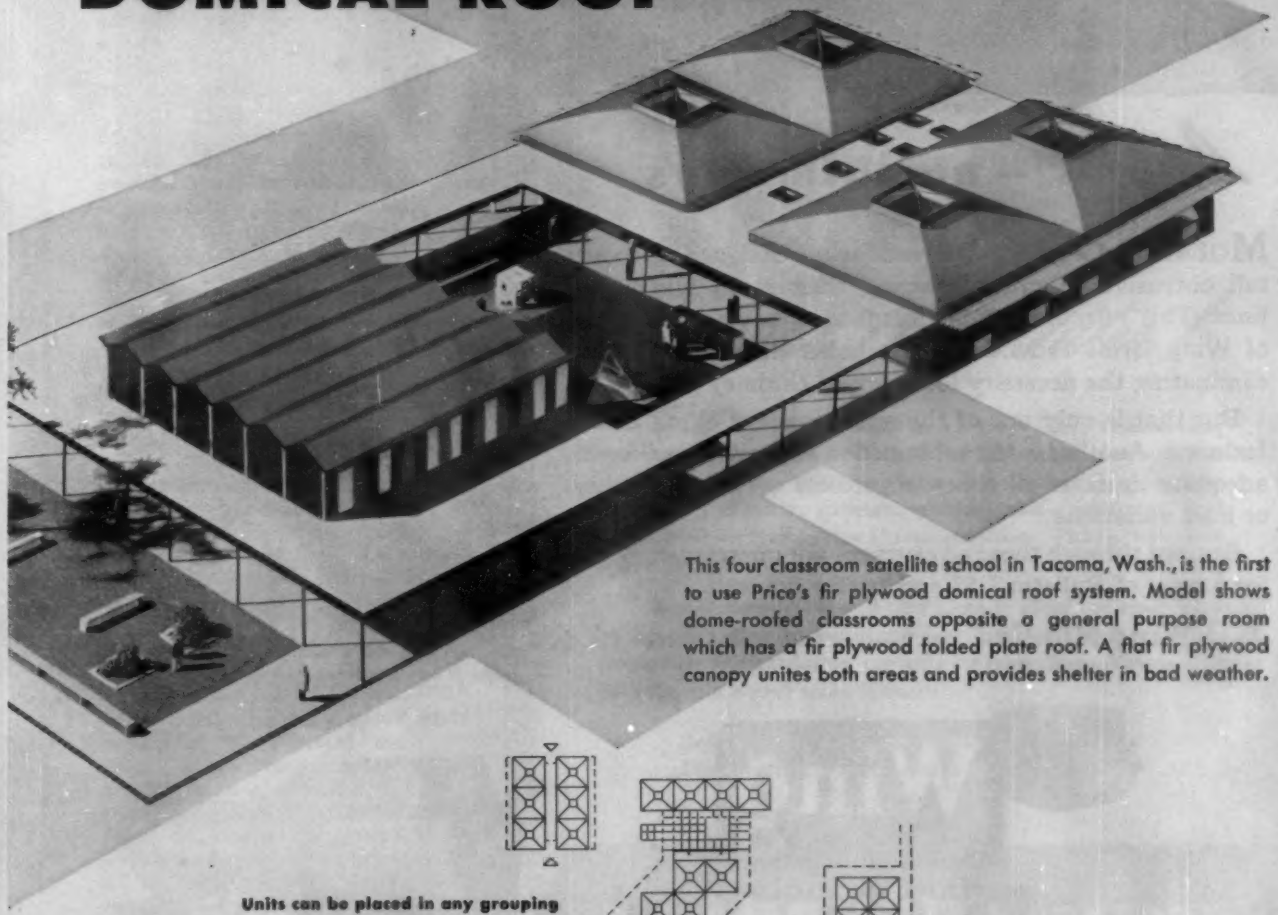
. . . a portfolio collection of outstanding designs by six leading architectural firms. Includes details on domical roof shown above. For your free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Wn.

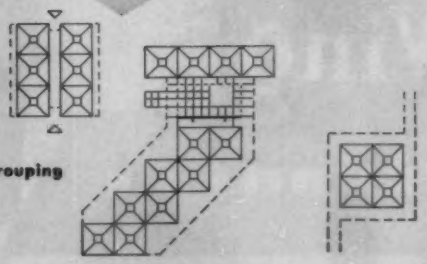
Also write for information about fir plywood design and engineering consulation services.


Plastic skylight
Finish roof: sprayed on plastic membrane
Laminated plywood skylight curb
8'
Laminated rib
2'
Support at wall is by 24"-deep plywood box beam, at corners by 4 x 4 posts.
4'
32'
2'
Shop-fabricated, glue-laminated vault is made of two thicknesses of ¾" long-length fir plywood.
Horizontal joints staggered.

DOMICAL ROOF



This four classroom satellite school in Tacoma, Wash., is the first to use Price's fir plywood domical roof system. Model shows dome-roofed classrooms opposite a general purpose room which has a fir plywood folded plate roof. A flat fir plywood canopy unites both areas and provides shelter in bad weather.



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(Above) Modern school using Wing Draft Inducer

(Below) Industrial Plant equipped with Wing Draft Inducers

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The Record Reports

On the Calendar

March

5-6 Plastics in Building Illumination: Daylight and Electric Sources; Building Research Institute Conference—University of Houston, Houston

8-12 Regional convention of the American Association of School Administrators—San Francisco

9-12 First National Lighting Exposition, sponsored by Lighting Lamps and Electrical Manufacturers Salesmen's Association—The Coliseum, New York City

12-14 The 44th annual convention, Michigan Society of Architects—Hotel Statler, Detroit

12-14 "Plastic Design and Steel Structures," a conference for architects and structural engineers to be conducted by the Engineering Institutes of the Extension Division of the University of Wisconsin, Madison, Wis.

16-22 Nuclear Congress, sponsored by more than 30 organizations coordinated by the Engineers Joint Council with management directed by the American Institute of Chemical Engineers—International Amphitheater, Chicago

17-18 The Building Industry's Role in Urban Renewal; a joint national conference sponsored by ACTION and the National Housing Center—National Housing Center, Washington, D. C.

17-21 Annual conference and exposition, National Association of Corrosion Engineers—San Francisco

29 Regional convention of the American Association of School Administrators; through April 2—Cleveland

April

17-19 South Atlantic District, American Institute of Architects, Regional Conference—Municipal Auditorium, Sarasota, Fla.

18-19 Middle Atlantic District, American Institute of Architects, Regional Conference; theme, "The Architect in Tomorrow's City"—Sheraton-Belvedere Hotel, Baltimore

19-27 "International Design"; third annual International Home

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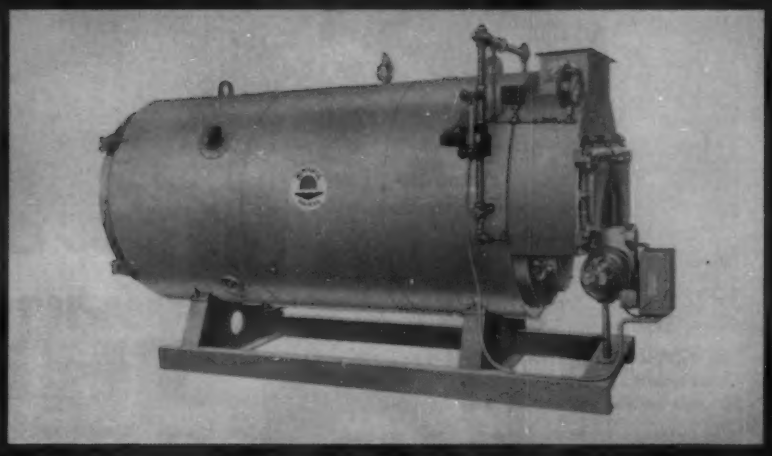

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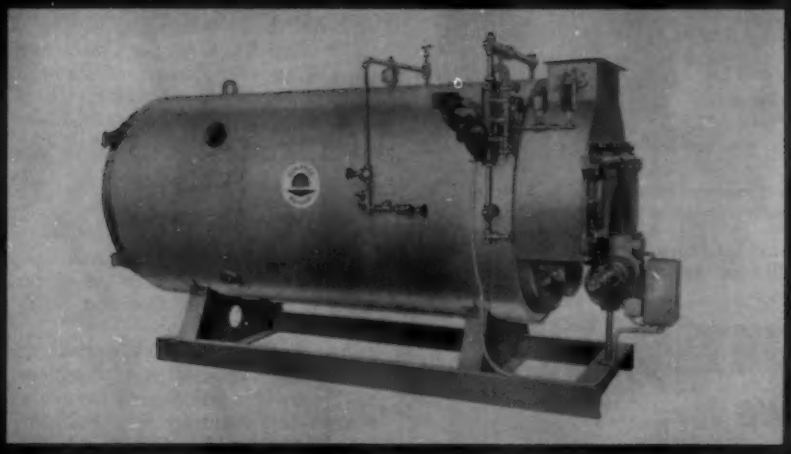

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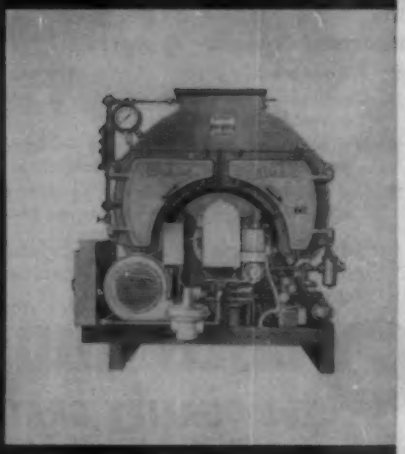

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The Record Reports

Show—The Coliseum, New York City
21-22 Seventh annual meeting, Building Research Institute—Shoreham Hotel, Washington, D. C.
28 Annual meeting, Board of Directors, American Institute of Architects; through May 2—Washington, D. C.

May

2 Fifth annual conference for Engineers and Architects, sponsored by Ohio State University—University Campus, Columbus
9-10 The 78th annual convention, Michigan Engineering Society—Civic Auditorium, Lansing, Mich.
18-22 National Planning Conference, American Society of Planning Officials—Washington, D. C.

Office Notes

Offices Opened

Caudill Rowlett & Scott Associates announce the opening of an eastern office at P. O. Box 60, Corning, N. Y.

Bernard F. Greene, electrical and mechanical consulting engineers, have opened a permanent branch office at 205 Summer St., Stamford, Conn.; Sanford Hess will direct the new office.

Herbert R. Kameon, A.I.A., has announced the opening of his offices at 8332 Livingston Way, Los Angeles 46, Cal.

William Cobb Matthews, A.I.A., has opened an office for the practice of architecture at 483 College St., Macon, Ga.

Clayton & Miller is a new architectural partnership formed by R. William Clayton Jr. and Kenneth Russell Miller. Offices are at 3820 N. E. Second Ave., Miami 37, Fla.

James J. Montalto and Don W. Williams have announced the formation of an architectural firm with offices at 1701 State Rd., Cuyahoga Falls, Ohio.

Oubre and Wagner, Architects, has been formed by the partnership of James P. Oubre, A.I.A., and Leo F. Wagner, A.I.A.; offices are located in the Maritime Bldg., New Orleans, La.

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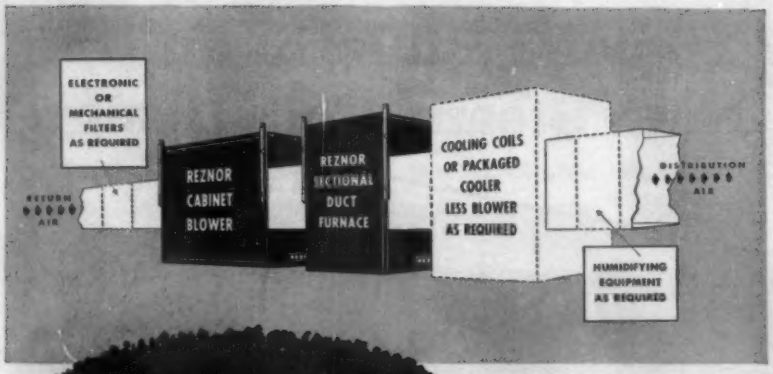
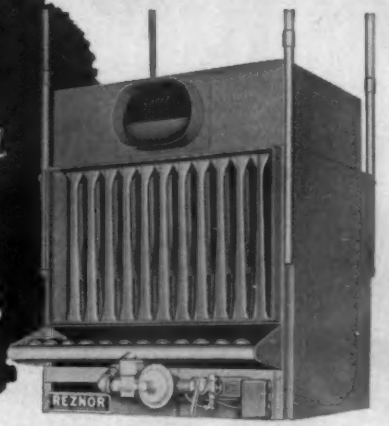

ELECTRONIC OR MECHANICAL FILTERS AS REQUIRED
RETURN AIR
REZNOR CABINET BLOWER
REZNOR SECTIONAL DUCT FURNACE
COOLING COILS OR PACKAGED COOLER LESS BLOWER AS REQUIRED
DISTRIBUTION AIR
HUMIDIFYING EQUIPMENT AS REQUIRED

How to Match a Heating System to Exact Job Requirements



Reznor sectional duct furnaces free the designer from the limitations imposed by packaged heating equipment . . . equipment which can't be *exactly right* for any one job because it has to be *good enough* for so many different jobs.

A heating or heating-cooling system designed around a Reznor duct furnace can be matched to exact job requirements. Each duct furnace is a compact, highly efficient heat exchanger with a full set of operating controls. All other components,—for air moving, cooling, cleaning and moisture control—are separately specified and installer-supplied. Only those components which are necessary on the particular job need be included, with each individually selected to fit that one job.

Sectional assembly (a completely new concept in duct heating equipment) completely eliminates the installation problems which formerly prevented the use of large capacity custom-engineered duct heating systems. With the Reznor Series DS sectional duct furnace, systems with capacities in excess of 2,000,000 Btu can be assembled on the job from sections weighing no more than 315 pounds. Each of four basic sections—150, 200, 250, and 300 thousand Btu—is complete with controls and is provided with its own built-in draft diverter, flue connections and mounting pipes.

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The Record Reports

Robert E. L. Peterson, Architect, has opened his offices at 409-410 Piedmont Bldg., Greensboro, N. C.

Wm. Cramp Scheetz Jr., Architect, has acquired the practice of the firm Savery, Scheetz & Gilmour, with offices at 1500 Walnut St., Philadelphia 2, Pa.

Firm Changes

Harland Bartholomew and Associates, city planners, landscape architects and civil engineers, announce the elevation to partnership of William S. Pollard Jr., chief engineer, and Donald Wolbrink, resident planner in the firm's Honolulu office.

John C. Bryant, A.I.A., Robert Butterfield, Associate, have announced that Norman G. Aehle, Architect, has joined the firm; offices are at 208 Sager Bldg., Everett, Wash.

The firm of Ketchum, Giná & Sharp has been dissolved. Morris Ketchum Jr., J. Stanley Sharp and Robert MacKinnon Jr. will practice as the firm Ketchum and Sharp, Architects, at 227 E. 44th St., New York 17, N. Y. Francis X. Giná and D'Anson Isely have established offices at 219 E. 44th St., New York 17, N. Y., as the firm Francis X. Giná and Associates, Architects.

Mead and Hunt, Inc., announce that Robert B. Torkelson, architect-engineer, has been put in charge of architectural work to replace Harold C. Balch.

Smith, Hinchman and Grylls Associates, Inc., architects and engineers, have announced that Edwin A. Doig has joined their staff as hospital specialist. The firm is located at 3107 W. Grand Blvd., Detroit 2, Mich.

New Addresses

Reino Aarnio, Architects and Industrial Designers, 244 Madison Ave., New York 16, N. Y.

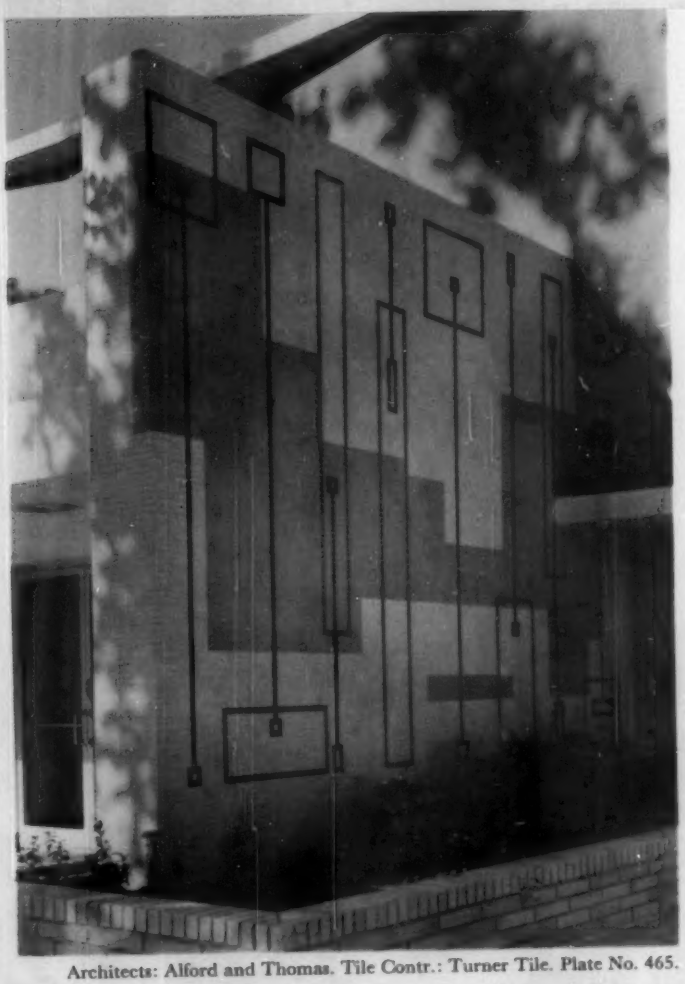
Robert H. McCarty, Architect, 3340 Polar Ave., Room 124, Memphis, Tenn.

Moore and Hutchins, Architects, 800 Second Ave., New York 17, N. Y.

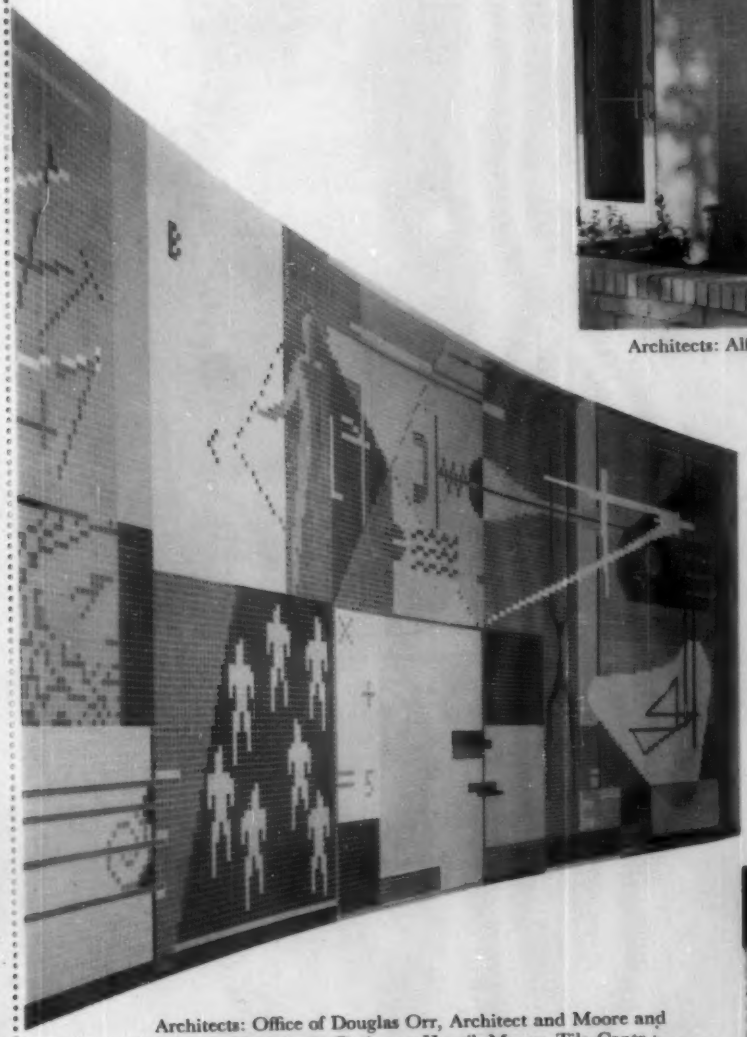
Murphy & Mackey, Architects, 6124 Enright, St. Louis 12, Mo.

Noah N. Sherman, Architect, 154 Nassau St., New York 38, N. Y.

America is entering the ceramic tile age



Architects: Alford and Thomas. Tile Contr.: Turner Tile. Plate No. 465.



Architects: Office of Douglas Orr, Architect and Moore and Salsbury, Architects. Designer: Henrik Mayer. Tile Contr.: Architectural Tiling and Terrazzo Co. Plate No. 397.

THE MOSAIC TILE COMPANY

MURALS AND INDIVIDUAL DESIGN IN MOSAIC CERAMIC TILE

MOSAIC®

A.I.A. FILE NO. 23-A

Architects: Chaix and Johnson. Tile Contr.: Premier Marble and Tile Co. Plate No. 448.

THE MOSAIC TILE COMPANY

MURALS AND INDIVIDUAL DESIGN IN MOSAIC CERAMIC TILE

A.I.A. FILE NO. 23-A

Architectural spirit preserved in Mosaic Ceramic Tile

Mosaic Ceramic Tile offers the designer a permanently colorful and integral means of building a mural or individual design into a structure. Such designs can characterize a building's function, identity or historical significance, as well as furnish a center of interest and help direct circulation.

For exterior surfaces ceramic tile is the one material the designer can count on to preserve the original intent of his creation. Colors remain faithfully unchanged for the life of the structure. On interior floors, walls and counter tops, Mosaic tile designs are permanent expressions of enrichment.

The Mosaic Harmonitone color palette gives the designer a broad choice of compatible colors—the widest selection available anywhere. In shapes, sizes and textures, the variety of the Mosaic line is unexcelled. The complete Mosaic line of ceramic tile includes glazed wall tile, ceramic mosaics, Carlyle Quarry Tile, a wide selection of decorated tile, Everglaze (textured hard glaze tile) and Faience.

Shown here are several examples of murals and individual designs in Mosaic ceramic tile, executed by architects, working with our tile technicians who assisted in translating ideas into the ceramic tile medium. Mosaic's Design Staff serves architect, builder and owner alike in developing tile treatments for any area. We will assist you in the details of your own designs, or will create suggestions for your approval.

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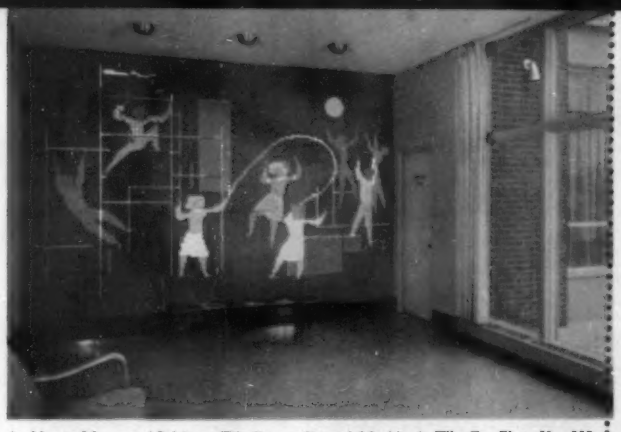
Kenneth M. Gale,
Director of Design
The Mosaic Tile Company



Architects: Moore and Salsbury. Tile Contr.: Central Marble & Tile Co. Plate No. 558

The Mosaic Tile Workbook for Architects, Form No. 218, is in Sweets. For additional data, write The Mosaic Tile Company, Dept. A, Zanesville, Ohio, or The Mosaic Tile Company, Dept A, 829 N. Highland Ave., Hollywood 38, Calif.

Ask for:

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Buildings of Today—Form No. 208
Swimming Pool Catalog—Form No. 158
Name Panels and Numerals Folder—Form No. 191

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Factories: Zanesville and Ironton, Ohio; Matawan, N.J.; Little Rock, Ark.; Jackson, Miss.; Corona and El Segundo, Cal.

Architects: H. C. Gogerty. Designer: Ada Korsakaite. Tile Contr.: Long Beach Marble and Tile Co. Plate No. 491.

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Contractor: Fruin-Colnon Construction Company, St. Louis

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Contractor: William H. & Nelson Cunliff Construction Company, St. Louis

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One of the largest curtain wall projects in the area, Monsanto's general offices comprise three identical office buildings and an executive building, which provide 385,000 gross square feet of floor space and accommodations for 1,600 employees. Also at the new location is the research laboratory of the company's Inorganic Chemicals Division, where 82 applications of plastics in building were made.

Located in eastern St. Louis County, these new buildings represent the latest in design and construction and embody every modern facility for efficiency, comfort and safety. Watchmen report to the ADT Central Station while on patrol, and there is an ADT Manual Fire Alarm System to summon the fire department and give a local warning when required. For sprinklered buildings, ADT Waterflow Alarm Service signals the fire department automatically when water flows.

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Florida Savings & Loan Office Designed for Expansion

Designing a new office building for the Hollywood Federal Savings & Loan Association at Hollywood, Fla., architects Gamble, Pownall & Gilroy planned a structure which would absorb an estimated increase in business of 375 per cent over the next 20 years. The architects had studied similar establishments in Florida, and found that "the major problems were the rate of growth and the ability to expand with it. In a business where service is the principal commodity, it is a question of expanding space for personnel and records to increase departmental efficiency and at the same time provide convenient facilities for customers."

The association's own estimate of its expansion included a first phase, now current, or $40-45 million worth of business annually. In the second stage, expected in nine years, the total volume would rise to $70 million; and in the third stage, to take place in 1971, business would reach $100 million yearly.

At present, the association will use only two floors of the five-story building; the first floor for lobby, tellers' space and most offices for mortgage-loan, new shares accounts, loan service and accounting departments, and the third floor for an employes' cafeteria, attorneys' offices, directors' room and library.

The "expansion joint" of the building is the second floor, to be rented as office space now, but gradually reclaimed by the association as extra space is needed. By 1966, when the association expects to enter its $70 million phase, tellers' cages will be increased from 10 to 14 on the first floor, and the association will take over a part of the second floor to house executive offices and the loan service department. In the final stage of expansion, the first floor will be

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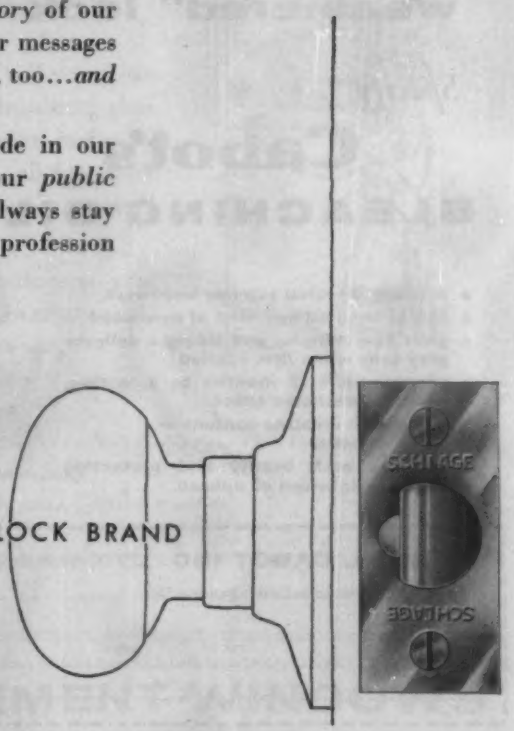

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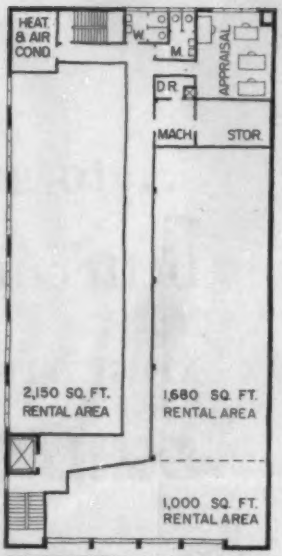
occupied only by savings, new shares accounts and special services; the second floor will be entirely used by the association, which will place its mortgage loan operations there.

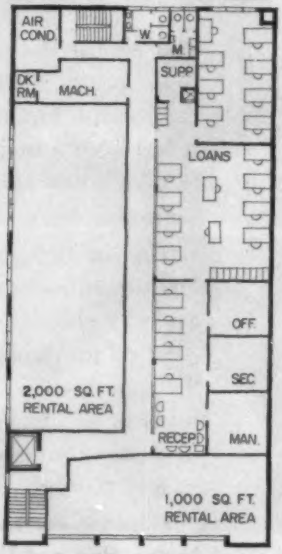
The design puts a dumbwaiter and a record vault on the second floor in readiness for the changes; until the final change, the record vault will be used as office space.

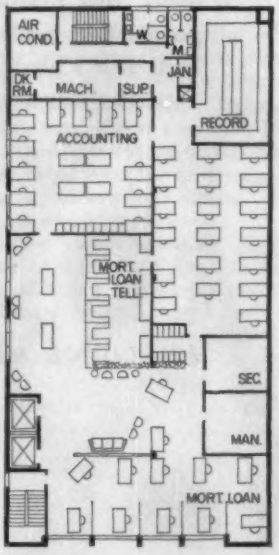
The two top floors of the building will be made available for office rental.

The building was erected at a cost of about $500,000.

In column, right: projected use of the second floor, the area set aside for expansion of the Hollywood Federal Savings & Loan Association. Top: in the first stage, floor will be used almost entirely for commercial rental; only the association's appraisal department is located here. Center: savings association will utilize a part of the floor for loan servicing and executives in the second stage; a part of the floor will still be rented to outside concerns. Bottom: in final stage, none of the floor will be rented, association will use it for mortgage loan department, accounting and executives, while loan service returns to first floor; record vault will be office space in early stages, only in final stage will be put to use for which it is built







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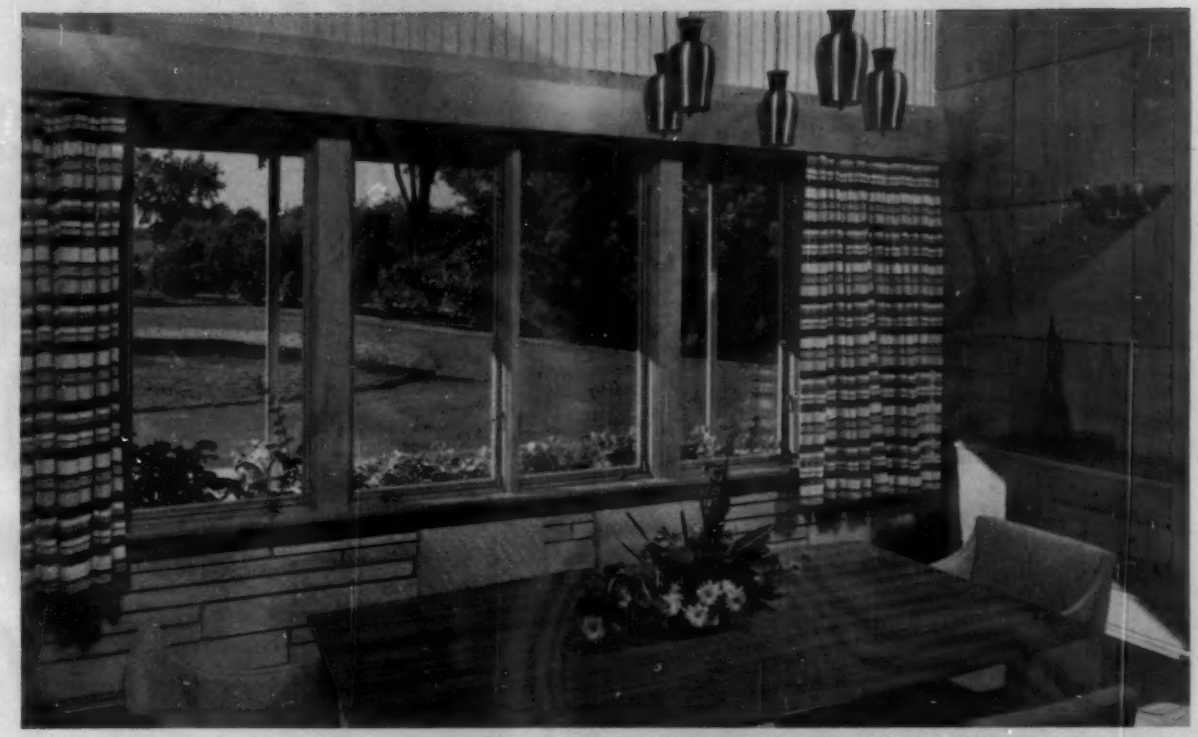

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For full specification data on Andersen WINDOWALLS, see Sweet's Files—or write Andersen for Detail Catalog and Tracing Detail Files. WINDOWALLS are sold by lumber dealers throughout the United States, and now in Canada.

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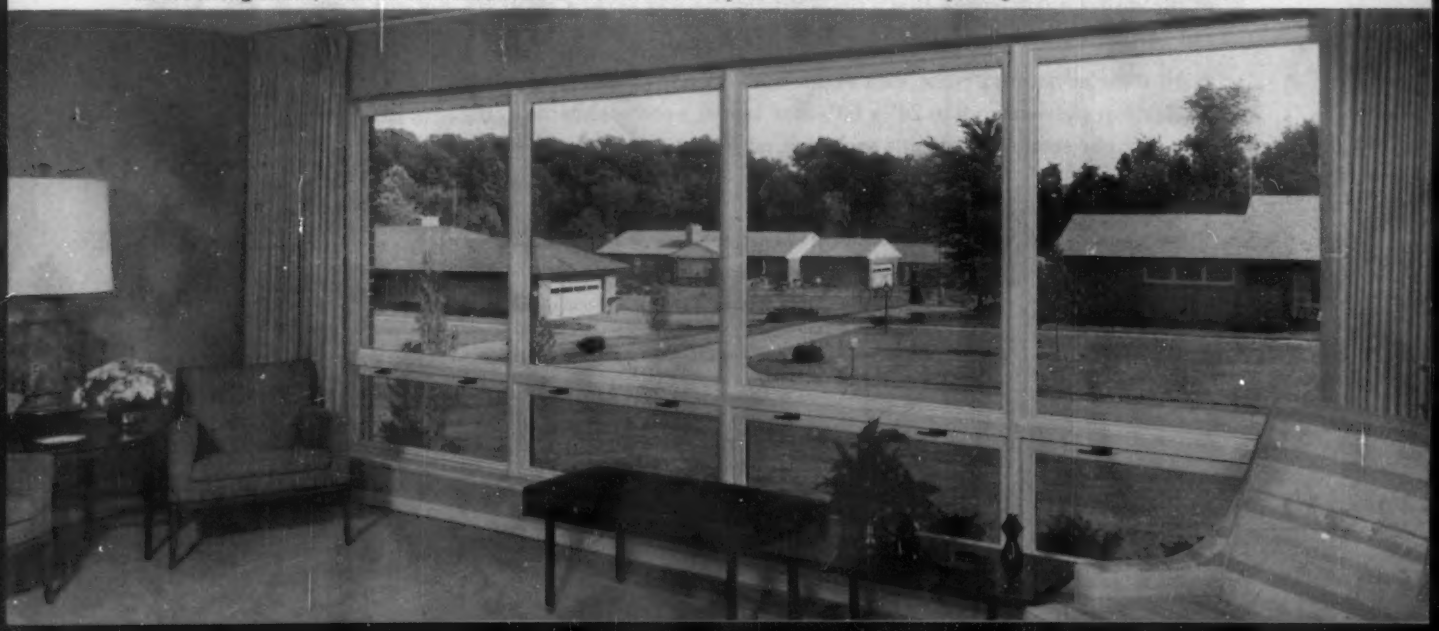
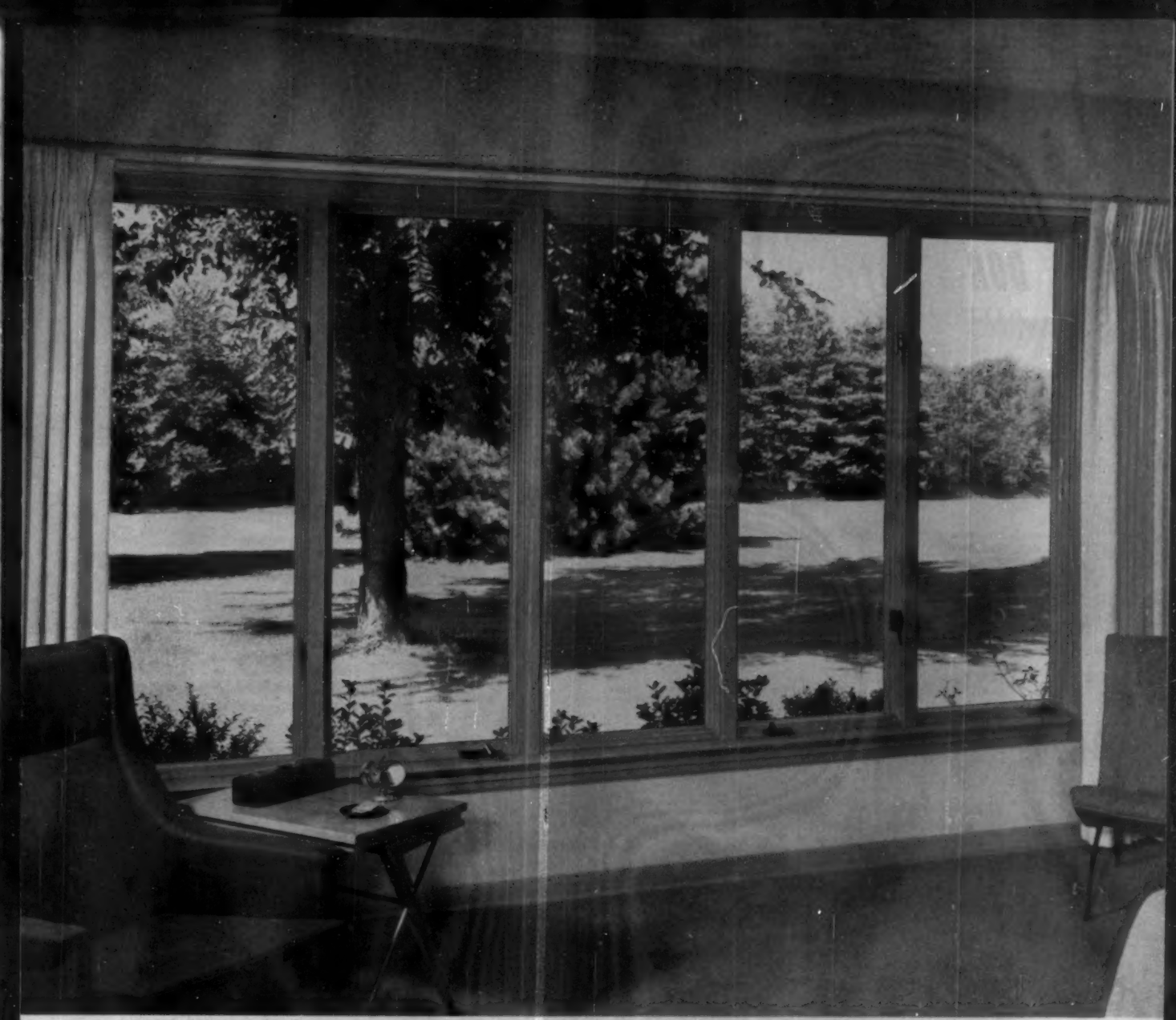
In the living room, Andersen Flexivents® combine with Flexiviews for picture-window effect with operating sash. E. F. Gordon, A.I.A., architect.





In this bedroom, architect Frank McGuire used Andersen Casement Units to provide a king-size view, to admit cooling breezes.

More wall space is available with the smaller Andersen Casement Units. Architect is Kenneth E. Wischmeyer.

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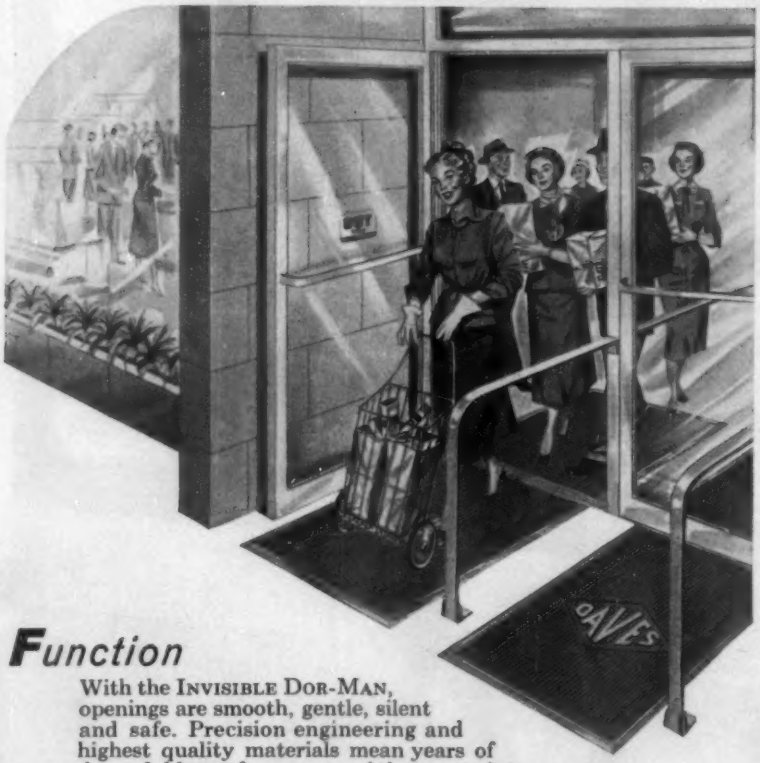

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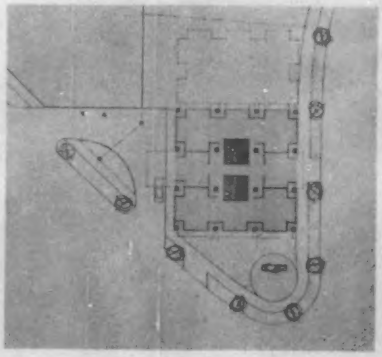
The Record Reports

Medical Office Building Designed With Flexible Suites for Rent

This medical office building, located in the fringe area of Tampa, Fla., was designed by Mark Hampton, Architect, for Medical Center Corporation. Joseph C. Russello was consulting structural engineer; Charles T. Healy, consulting mechanical engineer.

The building stands alone, directly adjacent to the Municipal Hospital. The six floors of rental area are planned to accommodate various flexible arrangements of doctors' suites around two central utility and vertical transportation cores which penetrate from the mechanical area in the basement to the penthouses. The ground floor of low masonry masses (which can be expanded to the south) will accommodate X-ray and laboratory facilities for all the lessees, a pharmacy and a doctors' lounge and display area. Parking will be handled by an adjacent existing parking garage.

The low masses are surfaced with masonry panels of polished marble pebbles. The main structure is white reinforced concrete, with precast textured concrete panels and aluminum and glass curtain walls with blue porcelain spandrel panels. On the north and south elevations concrete eyebrows are a sun-controlled device which also facilitates window washing.



*SAVINGS & LOAN ASSOCIATION REQUESTS...

NEO-RAY LOUVRED CEILINGS Over...and Over again

*Industrial Federal Savings & Loan Assn., Lakeside Shopping Center Branch, Denver, Colorado

Architect: LINDER, WRIGHT & WHITE
Denver, Colo.

One installation shows confidence...but continuous specifications by the same architects and engineers express a high regard for the quality and performance of NEO-RAY LOUVRED CEILINGS.

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*Gentlemen:

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2. Literature furnished by Neo-Ray is very complete as regards structural detailing.

Very truly yours,

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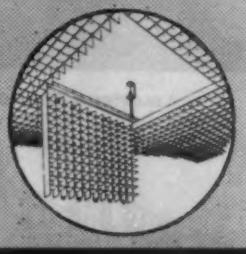

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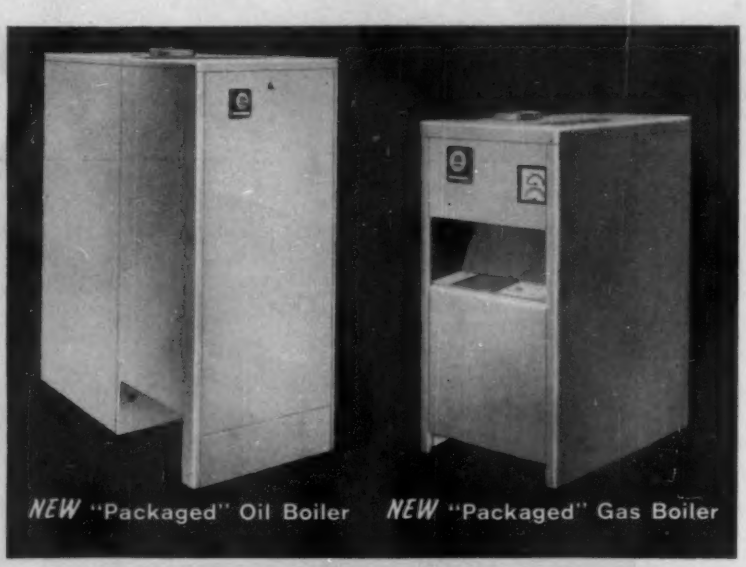

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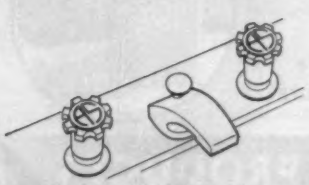
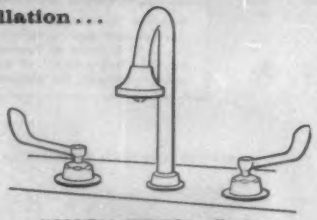


NEW MONOGRAM FITTINGS—can be personalized with your client's initials.

QUALITY FITTINGS—designed to look "new" longer.

NEW SINGLE LEVER FAUCET—offers finger-tip control.



HOSPITAL FITTINGS—offer long dependable service.

"tomorrow" in your planning...

Built to stay "young" in both looks and usefulness—this design concept is making today's houses and apartments better buys than earlier postwar homes. Architects and builders find that American-Standard quality products like these, with their simple, functional design and durable materials, truly help to keep their houses "young."

Radiantrim Baseboard Heating Panels (shown in room) carry draft-free hot-water heat around perimeter where it's needed most. This modern hot water comfort radiates evenly from floor to ceiling, wall to wall. Cast iron sections make no expansion noise, cannot dent. Paint any color to blend or contrast with walls. May be easily recessed to depth of plaster.

New Packaged Gas and Oil Boilers are shipped completely assembled for fast, neat, economical installation. Both are of extra-compact construction (G-2 only 33½" high) for any convenient first-floor or basement location. Both may be equipped with special, space-saving, built-in domestic water heater.

Stunning New Gracelyn Cabinet-Lavatory has one-piece china bowl and counter top. Smooth, unbroken surface cleans easily, no dirt-catching seams. Choice of eight colors and white. Double doors on roomy storage cabinet feature magnetic latches. Wood cabinet in neutral beige. In 32", 36" and 42" lengths: 18" wide. Legs in two sizes (allowing 31" or 34" floor-to-rim lavatory height) have adjustable leveling tips.

New Norwall Residential Wall-Hung Toilet helps keep bathrooms looking new for years. Off-the-floor design and snap-off seat and cover allow easy cleaning around and under fixture. Sparkling vitreous china toilet, in eight colors and white, can be installed in standard 6" stud wall.

For more product information write: AMERICAN-STANDARD, PLUMBING AND HEATING DIVISION, 40 W. 40th Street, New York 18, N. Y.

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AMERICAN-Standard

PLUMBING AND HEATING DIVISION

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FIRESTOPPER
ROOF DECK

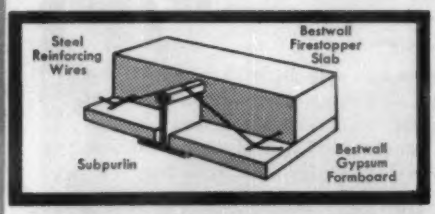
Four sales-packed pluses to protect and satisfy *your* customers:

FIRESAFETY—The roof deck that combines fire resistance with strength! Steel subpurlins welded to the main steel structure; permanent base of Bestwall Gypsum Formboard; reinforced steel mesh; and poured-in-place Bestwall Metro-Mix gypsum cement.

FLEXIBILITY—It's light—for savings in structural supports! It's strong—meets all building requirements! It's adaptable—for use on any shaped roof!

ECONOMY—An average crew can pour 30,000 sq. ft. in one day! And the Metro-Mix slab sets in less than an hour so final built-up roofing can be applied immediately.

DURABILITY—Long years of efficient, protective service—the 4th reason for specifying Bestwall's Firestopper Roof Deck for satisfied, well-served customers!



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Company.....
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The Record Reports

Adult Education: Creating Space For a Speedily Growing Field

Remarking the rapid expansion in the area of adult education since the end of World War II, the Adult Education Association of the U. S. A., through its Commission on Architecture, has issued a brochure "Architecture for Adult Education," subtitled "a graphic guide for those who are planning physical facilities for adult education," and directed to architects as well as other members of any community planning such a program.

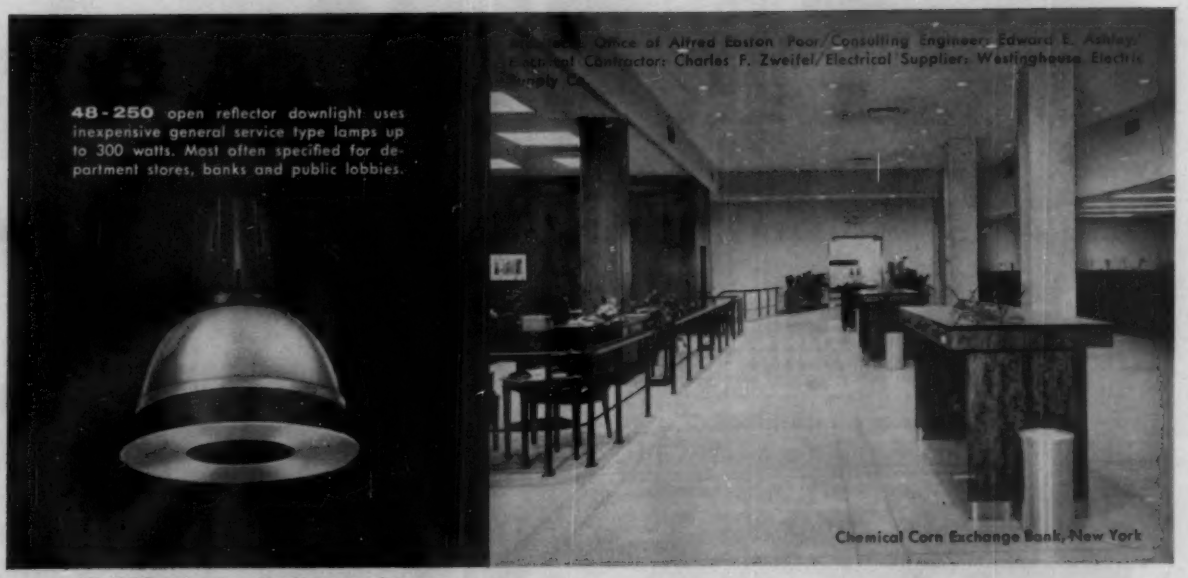
The term "adult education," as the association sees it, encompasses a variety of programs—health centers and hospitals giving public health instruction; libraries, both in their accustomed functions and as classroom centers; industrial concerns providing training for their personnel as well as "recreational" classes; public schools with evening adult classes; and college buildings, both for classrooms and for cultural activities. Proportionately, facilities designed expressly to house large-scale adult education programs are few.

The commission emphasizes in the report the importance of pleasant design for adult education centers, so as not to discourage hesitant students by presenting an "institutional" face. At all points, it recommends, the community should use the services of an architect—to judge the feasibility of remodeling, to select the site, to design.

A major part of the 74-page brochure is devoted to a look at various examples of facilities, with some discussion of the specific problems met in each. Most of the buildings shown are new (the commission found that remodeled buildings were on the whole unsatisfactory, though some are included). Although examples are shown from some large communities, the commission placed an accent on facilities built for small-town and rural use.

Members of the commission include, as chairman, architect John W. Becker, and Jackson M. Anderson, C. Harry Atkinson, George D. Butler, Fern M. Colborn, Shirley Cooper, Ray L. Hamon, Herbert C. Hunsacker, Hugh B. Masters, Worth McClure, John W. McLeod, John R. Miles, and Ernest I. Miller.

Copies of the booklet can be obtained from the Adult Education Association, 734 North Wabash Ave., Chicago 11, Ill., at $2 each.


48-250 open reflector downlight uses inexpensive general service type lamps up to 300 watts. Most often specified for department stores, banks and public lobbies.
Chemical Corn Exchange Bank, New York

48-500 high ceiling ellipsoidal open reflector downlight for auditoriums, churches, museums. Available with Alzak natural or golden reflector in 300, 500, 750 and 1,000 watt sizes.

48-1220 for gymnasiums and lunchrooms, playrooms and arenas. Spoke guard is of solid cast aluminum, heat-treated for strength. Available for surface, recessed, pendant or I-beam installations. Wattages up to 1,000 . . . also in mercury vapor series.

This photographic report taken by the Committee on Lighting of the Central Station Properties, Illuminating Engineering Society in October 1954 visually proves the importance of properly ventilated lamp husks.

Dirty	Improvement	Cleanest
No. 1 Test	No. 2 Test	No. 3 Test
No vents	Vents poorly located	Vents properly located

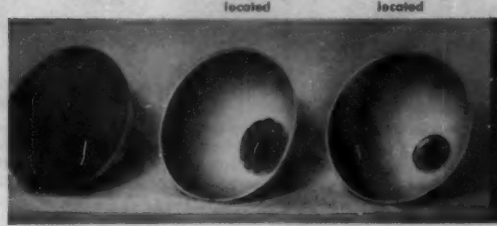
downlights by mc Philben

cooler burning
lower maintenance costs
tested and proved

mcPhilben's 48 series interior downlights were selected to light the main area of the Chemical Corn Exchange Bank in New York in 1957. Today, after more than a year of operation, maintenance engineers report an operating efficiency and lamplife unequalled by any other downlight in use.

All mcPhilben interior downlight units are equipped with cast aluminum radiators and cooling fins. This outstanding engineering feature assures cooler burning and longer lamplife. In addition, reflectors remain cleaner and brighter for longer . . . as proved in the I.E.S. test shown below.

Full details on these downlights are now available on individual specification data sheets. Ask your mcPhilben representative for your copies or write to mcPhilben. Ask for the 48 and 84 lines.



mc Philben
LIGHTING COMPANY
1329 WILLOUGHBY AVENUE, BROOKLYN 37, NEW YORK

Versatile polyester plastics point the way to exciting new design and construction possibilities in

THE LABORATORY THAT PLASTICS BUILT

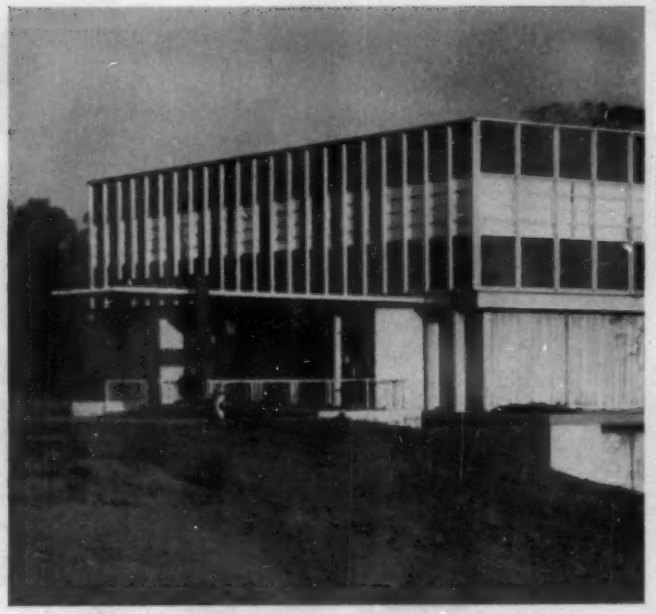
More than 80 different applications of over a dozen different plastics are employed in this plastics showcase — Monsanto's new Inorganic Division Research Laboratory in suburban St. Louis.

Because of their versatility, polyester plastics have played a major role inside and outside this three-story, 70,000 square foot structure.

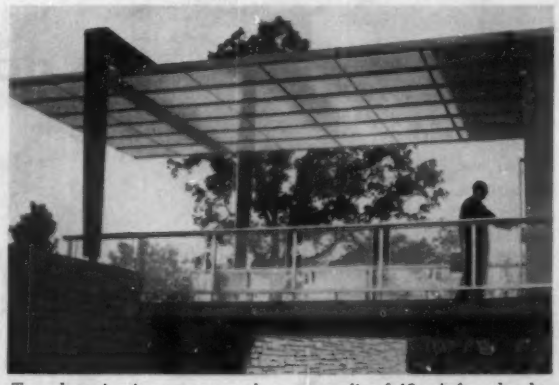
Now beauty and function can be combined in new ways—thanks to the tremendous strides in polyester resin technology and comparable advances in fabrication and molding techniques.

Through the use of polyester laminates and moldings, you can design one-of-a-kind or multiple components that can be manufactured at prices comparable to or lower than those made with conventional building materials. These lightweight plastic materials also make possible easier, faster and lower-cost on-site handling.

For your Manufacturer's File, may we send you a comprehensive list of polyester reinforced plastics molders or polyester panel manufacturers? In addition, we would be glad to send you reprints of six papers on Monsanto's laboratory building, presented at the 4th Annual Meeting of the Plastics Study Group of the Building Research Institute. To obtain this information quickly, write Monsanto today.

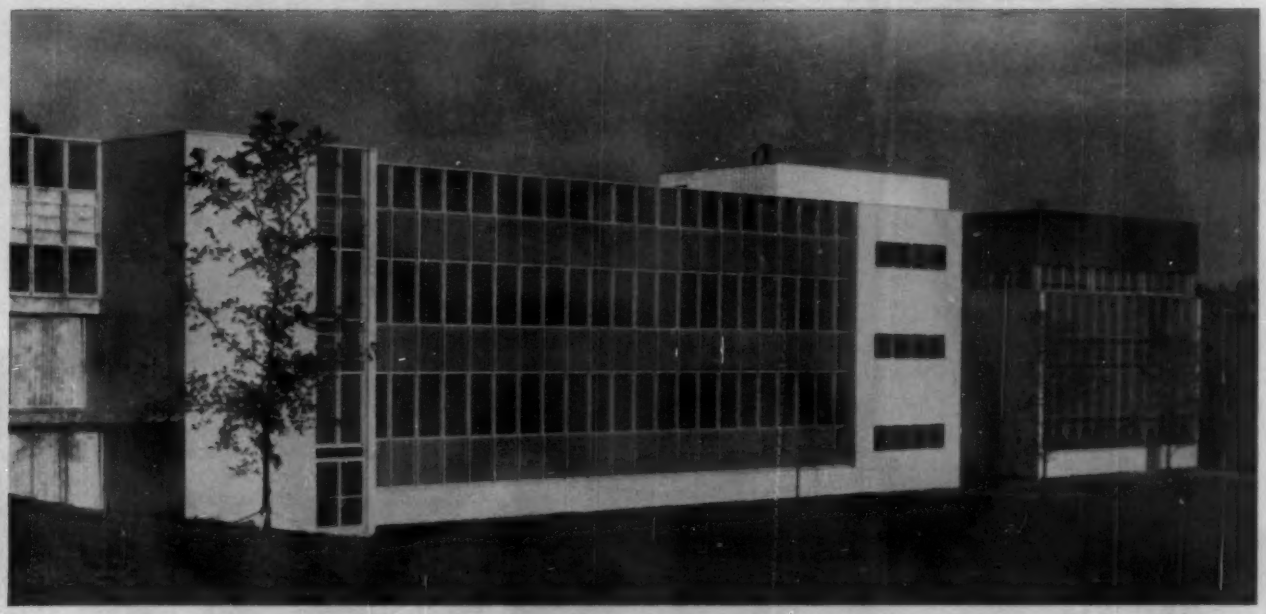


Architect: Holabird & Root & Burgee — Chicago

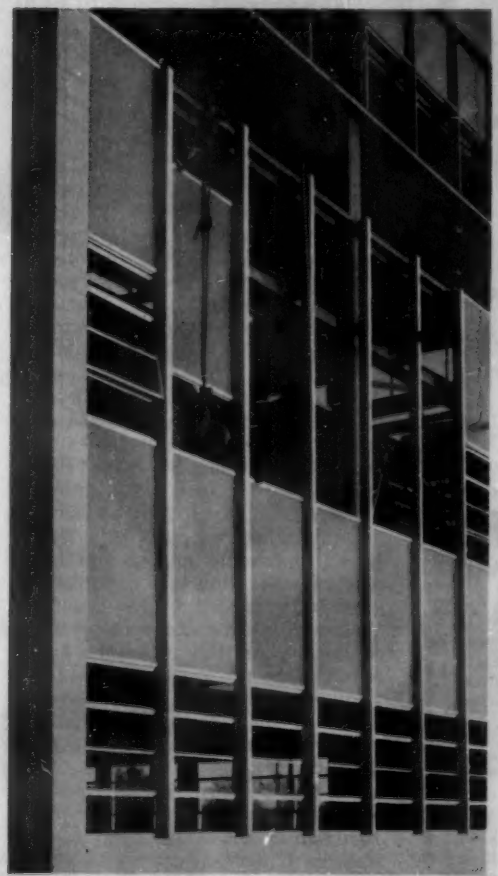


Translucent entrance canopy is a composite of 48 reinforced polyester sandwich panels: polyester skins covering a ½-inch honeycomb aluminum core. The canopy, fabricated to meet the minimum building code requirement of 30 lbs. per sq. ft. roof load, is fastened to the building at one end and is suspended at the other from a reinforced plastic bent of triangular cross section.

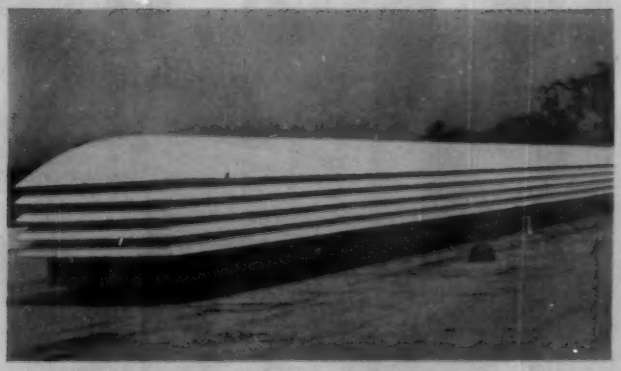
Tough, impact- and moisture-resistant polyester-coated concrete blocks are easy to lay up, provide handsome exterior or interior walls. The facing itself, a sand-resin slurry, is permanently bonded to the masonry unit. Color ranges are unlimited, particularly for interior uses where ultraviolet intensity is not a factor.



Contractor: William H. & Nelson Cunliff Company — St. Louis



Lightweight (8 lbs. per sq. ft.) curtain wall panels are moved easily into place. Each unit is a weather-resistant plastic sandwich: 2-inch foamed styrene core between reinforced polyester plastic skins. Exterior and interior colors are built in. Because all components in the panel are insulators, heat loss is practically nonexistent.



This louvered roof-top polyester-reinforced housing spans an area more than 100 feet long and protects 36 ventilating fans which exhaust chemical fumes from the building's laboratories. Resistant to corrosive fumes, this monitor section is actually an integral part of a laboratory fume-venting system that makes use of molded reinforced plenums and ducts.

Monsanto does not manufacture polyester resins or fabricated polyester plastics. We are a major supplier of quality raw materials to the industry: phthalic and maleic anhydrides, adipic and fumaric acids, styrene monomer, bisphenol A.

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St. Louis 24, Missouri *In Canada:* **Monsanto Canada Ltd., Montreal**

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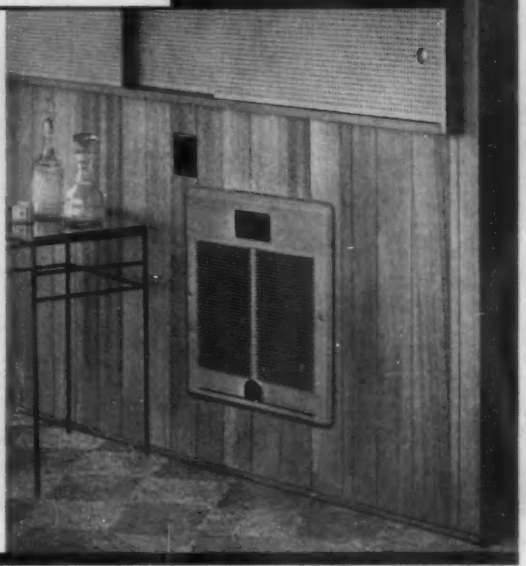
"Seven Leagues Ahead" in the science of electric heating

THERMADOR MODEL "NB" FAN-TYPE ELECTRIC HEATER

Features:

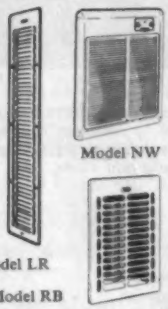
- striking modern design
- fast working... circulates warm air quickly
- clean, dust-free... smart grille aims warm air down, to the living zone
- safe, simple, reliable ...no vents needed, no dangerous gas fumes
- easy to install, flush to the wall
- 1650 watts output, 120/240 volts A.C., ...5630 B.T.U.s per hour



NEW & HOT*!

A Thermador Electric Heater for Every Room

BILT-IN ROOM HEATERS

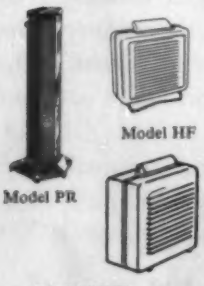


Model LR

Model NW

Model RB

PORTABLE ROOM HEATERS



Model PR

Model HF

Model MHF

*HOT SALES! HIGH PROFITS!

Here's the newest pride of the Thermador "Bilt-In" Electric Room Heater line... the new, medium wattage fan-type heater especially designed to give quick, circulated warmth in small rooms. Ideal for use in the nursery, den, dressing room, dinette, kitchen and bath. Available with or without thermostatic control in rich Spanish Gold or glossy White baked enamel.

The Originator of the Fan-Type Electric Heater

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Thermador Electrical Manufacturing Company
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A Division of Norris-Thermador Corporation

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Address_____

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☐ Bilt-In-Heater ☐ Portable

Washington Topics

continued from page 48

portico forward about 32 ft would completely destroy the original façade designed by Dr. William Thornton and approved by George Washington in 1793, and would obliterate the central court which has been the background for presidential inaugurations since 1825.

"The American Institute of Architects and the Society of Architectural Historians are already on record in opposition to these alterations."

Apparently convinced by the statements of Commission Chairman Sam Rayburn (D-Tex.), Speaker of the House, that the group would remain unmoved in its determination to see the work proceed, the Berla committee already was trying to interest the Public Works committees of House and Senate in taking another look at the matter. Partial success came in this effort when the February 17 hearing date was announced.

The McNamara subcommittee was scheduled to receive a report from Architect Stewart before the hearings began.

Restricted Advice An Issue

Very much at issue was the question of what the architectural advisers to Mr. Stewart might have reported had they not felt restrained by earlier Congressional action authorizing improvements "in substantial accordance with the Scheme B of the architectural report submitted by a joint commission of Congress and reported to Congress on March 3, 1905."

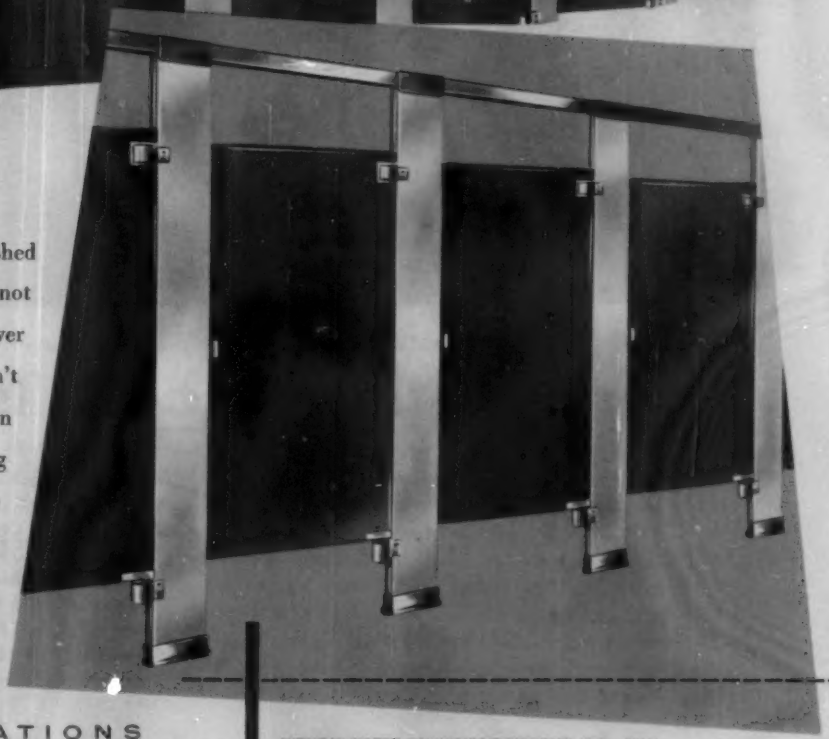
The restriction was recognized by the consultants, says the Berla committee, in this excerpt it quotes from their report to Mr. Stewart: "It was agreed between your consultants and the Architect of the Capitol that the question whether or not to move the East Front would not be a matter for discussion as this had been decided already by an Act of the Congress. Your consultants are therefore concentrating on the problem of how best to accomplish the will of the Congress within the limitations imposed by the Act in ways that will be least detrimental to the beauty and majesty of the East Front. They agree that these several requirements will be best fulfilled and very satisfactorily so by the design designated as Scheme C developed by your associate architects and based on a most carefully thought out study of the needs of the Congress in the foreseeable future." (The full report was published in AR, Dec. 1957.)

WEIS

VITRE-STEEL

PORCELAIN ENAMEL TOILET COMPARTMENTS

chosen for today's buildings



Weis *Vitre-Steel* toilet compartments, finished inside and out in vitreous porcelain enamel (fired, not baked), have several distinct advantages over other materials for today's buildings. They don't break, stain or present costly installation problems . . . whether floor braced or ceiling hung. Too, there's a wide choice of colors to harmonize with any decorating plan. See Sweet's Architectural File, No. **22b/We** . . . or send coupon below for complete information.

TYPICAL INSTALLATIONS

MURCHISON TOWER—Denver, Colorado
LOVE FIELD AIRPORT—Dallas, Texas
UNION PACIFIC R.R. HDQRS.—Omaha, Neb.
SEAGRAM OFFICE BUILDING—New York City
HUNTINGTON ORTHOPEDIC HOSPITAL—Huntington, W. Va.
ST. LUKE'S CHURCH—Mountain Brook, Ala.
TOK SCHOOL—Tok, Alaska
ST. GERTRUDE'S ACADEMY—Cottonwood, Idaho
FIRE STATION #23—Cleveland, Ohio
TECHNICAL HIGH SCHOOL—El Paso, Texas
SHERMAN ELEMENTARY SCHOOL—Oakland, Calif.
YALE & TOWNE MFG. COMPANY—Monroe, N.C.
LYONS TOWNSHIP HIGH SCHOOL—Chicago (suburban), Ill.
STANDARD OIL COMPANY—Clayton, Mo.
Y.M.C.A.—Muscatine, Iowa
M.I.T. LABORATORY—Cambridge, Mass.

HENRY WEIS MANUFACTURING CO., INC.
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Please send catalog and specifications of the complete line of Weis toilet compartments.

name

firm/institution

address

city/state

☐ have sales representative contact.

Never before such Golden Ease . . .

even the underscore is automatic!

Only The Underwood Golden-Touch Electric gives your hands such skill, such effortless speed, such print perfect letters and really readable multiple carbons! It's as though you'd suddenly put on "Magic Gloves". That's Golden-Touch . . . *and no other kind of typing in this world* comes even close to it! The Golden-Touch Electric does *more* work for you — even the underscore is *automatic!*

Golden-Touch Keys: Finger-tip shaped for smoothest *automatic* typing.

Golden-Touch Carriage Return: Tops in *automatic* efficiency to save your strength.

Golden-Touch Margin-Setting: *Automatic* action from keyboard. Ends wasteful hand-travel.

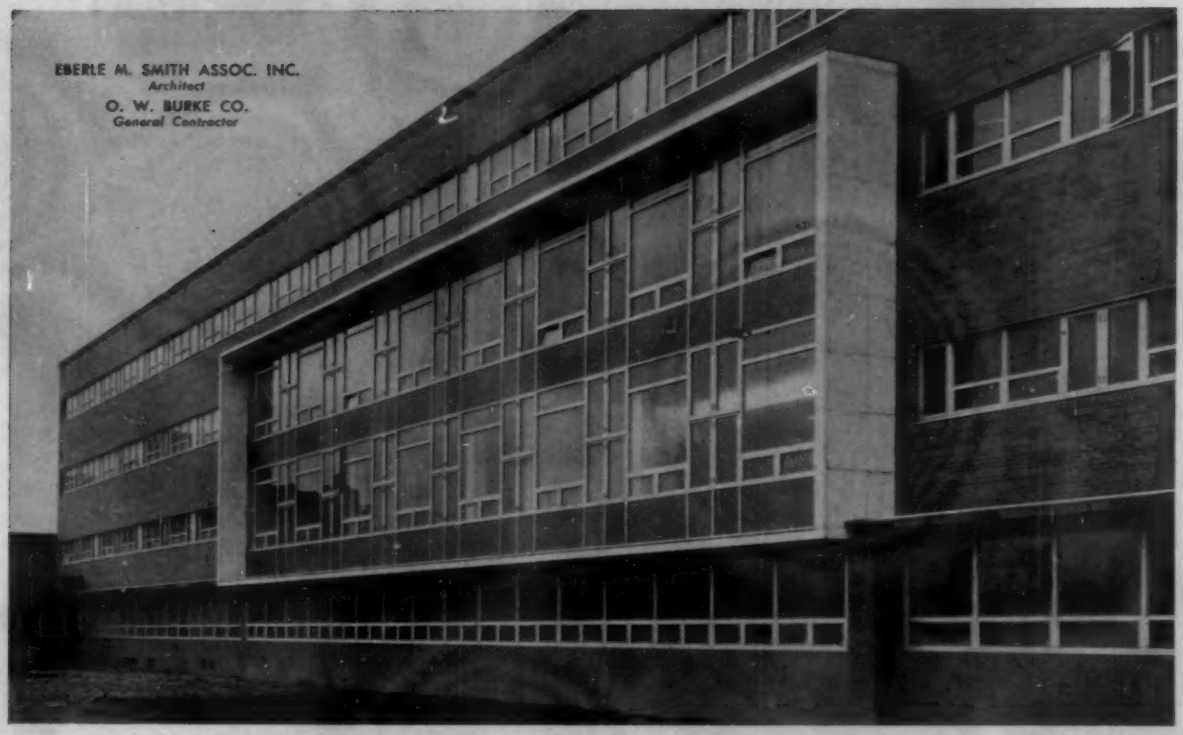
Golden-Touch Ribbon-Rewind: Easier and faster! Truly *automatic* ribbon changing!

Golden-Touch Copy-Dial: Just set it to get all the crisp, clear carbons you need.

Golden-Touch Electrics come in 5 office-scheme colors—with your choice of personalized type styles.

Call your Underwood Showroom today! It's listed in The Yellow Pages.

underwood...the only electric typewriter with Golden-Touch



VAMPCO ALUMINUM WINDOWS AND CURTAIN WALLS ACCENTUATE MODERN DESIGN OF THE NEW LAFAYETTE CLINIC

The new Lafayette Clinic in Detroit, Michigan is a beautiful example of how architects throughout the nation are incorporating modern Vampco Aluminum Curtain Walls and Aluminum Windows to combine full natural lighting, modern beauty, functional design, structural strength and durability in the new concepts of modern hospital design.

Note how the Curtain Wall section in the center of this magnificent hospital building accentuates the modern lines and the unusual lighting and ventilating of the building itself.

Vampco Aluminum Windows are available in the widest range of types to meet every architectural need. They include: casement, combination casement, awning, intermediate projected, curtain wall of varying sizes and thicknesses, heavy construction, glass block and custom-designed types. Find out how VAMPCO'S special designing service can help you solve your unusual building problems most economically and efficiently . . . mail coupon below today!

VALLEY METAL PRODUCTS CO.

PLAINWELL, MICHIGAN

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See Complete File in Your Current Sweet's Catalog

VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

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- ☐ Send 56-page Industrial-Institutional Window Catalog.
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RIBBONS OF LIGHT—Sylvania recessed troffer lighting can be mounted in continuous rows and spaced for desired high lighting levels in modern business offices.

Introducing . . .

a new Shallow Troffer Series by Sylvania— recessed lighting for today's building methods

For the aesthetically minded lighting designer, who has to cope with the modern trend to lower ceilings and shallower plenum spaces . . . here is a new approach to recessed lighting. It's Sylvania's new Shallow Troffer Series, fixtures which measure only 5½" from top to bottom—and, in many cases, require no more space than that for mounting!

Available in a variety of models, in both one- and two-foot widths, the Sylvania Shallow Troffer makes this popular form of lighting *practical and usable* in all new buildings, with full illumination efficiency. The units are fully recessed. Unsightly latches are buried. Even the hinges don't show . . . only the clean straight lines of the exposed portion of the framing, and the attractively styled shielding.

Sylvania Shallow Troffers are carefully engineered to utilize the full plenum space. Lay-in type troffers are provided for Z-spline and inverted-T ceilings. Exclusive *snap-up hanger* provides quick, secure mounting for most other types of acoustical ceilings (see sketches below). Ask your Sylvania Fixture Specialist for full details, or write direct for FREE new folder of specification data.

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. C20, Lighting Division—Fixtures
One 48th Street, Wheeling, W. Va.

SYLVANIA

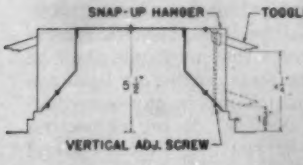
Fluorescent Lighting Fixtures and Systems

Best fixture value in every price range

LIGHTING • TELEVISION • RADIO • ELECTRONICS • PHOTOGRAPHY • ATOMIC ENERGY • CHEMISTRY-METALLURGY

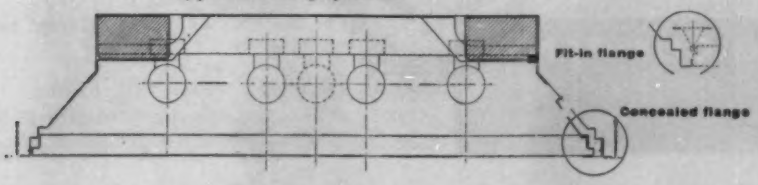
INDIVIDUALLY MOUNTED troffers, imaginatively arranged, combine attractive design with good basic light distribution for company cafeterias and lounges.

STRIKING, PLEASANT ACCENT for an up-to-date building corridor: Sylvania recessed lighting troffers continuous-row mounted with acoustical ceiling materials.

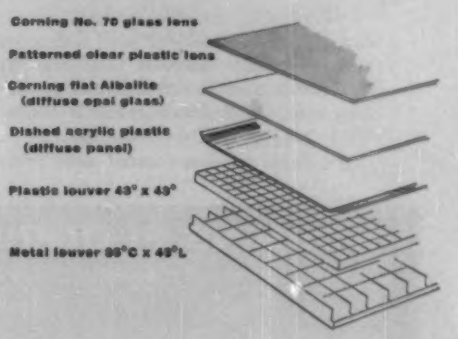


NEW 5½" HIGH TROFFER utilizes full plenum space. Exclusive *snap-up hanger*, with vertical adjusting screw, provides secure side-mounting for acoustical ceilings with support elements parallel to troffer. End-mounting brackets also available.

3 models offered to fit all types of ceiling systems:



ALL STANDARD TROFFER SHIELDINGS


Corning No. 70 glass lens
Patterned clear plastic lens
Corning flat Albalite (diffuse opal glass)
Dished acrylic plastic (diffuse panel)
Plastic louver 45° x 45°
Metal louver 90°C x 45°L

These consultants, John F. Harbeson, Henry R. Shepley, and Gilmore D. Clarke, advised that the present beauty of the Capitol could be retained only by moving out the whole East Front, including the wings, and not the central portion alone. And they so recommended.

(Arthur Brown, Jr., originally named as one of the consultants, died in July of 1957 and was replaced with Mr. Clarke.)

Speaker Rayburn has made it plain that as far as he is concerned no additional authority is required for actual construction work to begin. The authority that does exist is carried in an Appropriations Act which sets aside a total of $17 million for a start on the project which is estimated to cost $110 million in all. Mr. Rayburn also has spoken out against any start on the proposed remodeling of the West side of the building, also outlined in Mr. Stewart's comprehensive report to the Commission.

Pending Bills Would Stop It

Bills are pending before both Public Works Committees which, upon final enactment, would effectively halt the proposed East Front extension, the Berla committee believes. Several of these would amend the Act of 1955 to remove the clause which directs that the work be done in substantial accordance with the 1905 Scheme B. Such action, said Wilbur H. Hunter, Jr., executive secretary of the Committee to Preserve the National Capitol, would liberate the Commission from adherence to the extension of the East Front.

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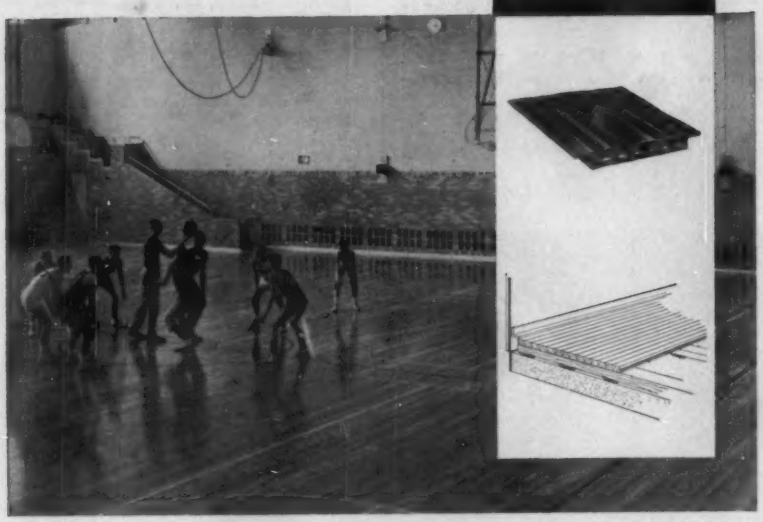

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Senate Gets School Aid Bills: None from Administration

Federal aid to school construction, while unmentioned in the Administration's proposals to Congress this year, came before the second session of the 85th Congress in the form of a number of bills introduced by members sympathetic toward government assistance in the classroom building field.

Javits Asks $2.4 Billion

The largest of the members' bills advocating a general construction aid plan was that of Senator Jacob Javits (R-N.Y.), who posed $2.4 billion as the figure he thought should be approved for Federal help to states and local districts in the construction of classrooms. This amount he would spread over a period of four years with distribution of funds to be on the basis proposed last year in the House committee bill which reached the floor but was defeated by five votes. This called for a formula including both per pupil and needs criteria.

But Senator Javits tied his measure at the outset to school integration principles. Many observers feel it was the segregation question which gave greatest impetus to the defeat in the House last year.

Senator Javits said:

"The bill in principal part calls for the allocation of $600 million a year for four years for aiding needed school construction but, recognizing the problems which have been illuminated by Little Rock, the bill specifically provides that no funds shall be paid to the state, school or local authorities which are in current violation of a Federal decree respecting school desegregation, which Federal decree has been made final by virtue of affirmation on appeal or due to the failure to appeal from it in time."

The bill (S. 3216) was referred to committee.

Kennedy Proposes $1.5 Billion

A five-year program providing $1.5 billion in Federal aid for school con-

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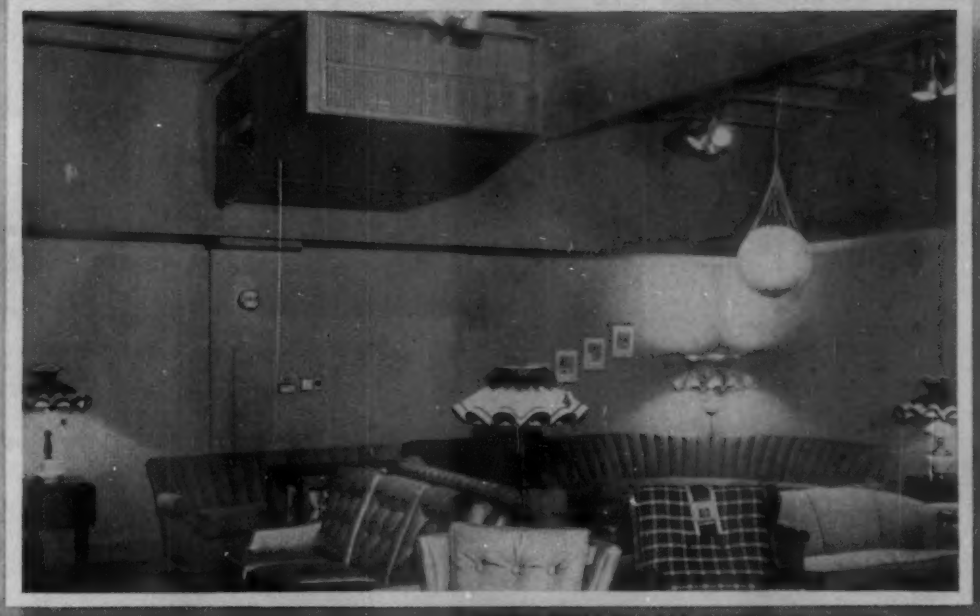

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General Electric Zone-by-Zone Air Conditioning in Dallas Home Furnishings Mart permits

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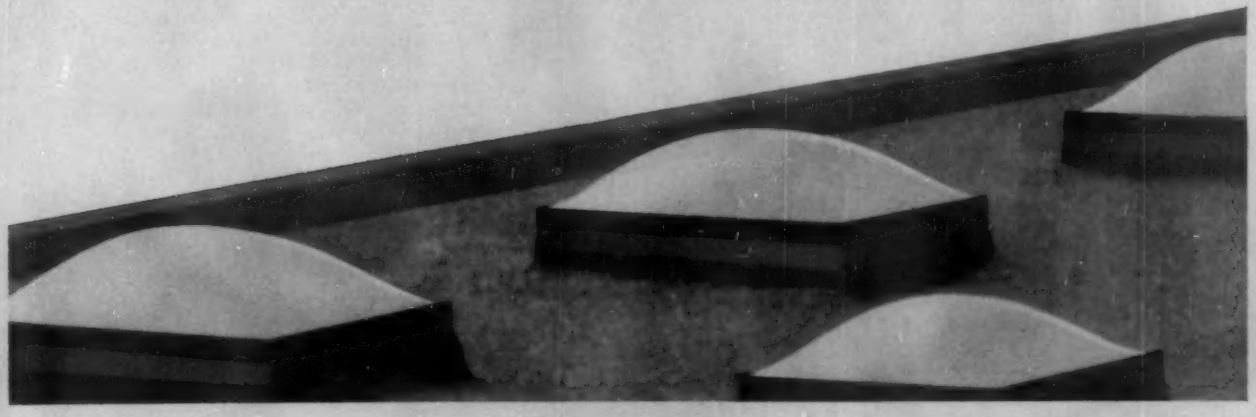

struction was proposed by Senator John F. Kennedy (D-Mass.).

The Kennedy proposal embodied a program similar to that defeated in the House last year by the narrow margin of five votes. Known as S. 3179, it would provide $300 million each year for five years, the money to be distributed to states on the basis of school age population. This aid would be supplemented by Federal purchase of school bonds and loans to state financing agencies.

In presenting the bill to the Senate, the Massachusetts Senator said his figure of $300 million constituted a rock-bottom minimum. It was set low, he added, only on the assumption that other pending measures will make additional funds available to hard-pressed schools.

The need for more school facilities was characterized by Mr. Kennedy as a major crisis facing education during the next decade. He estimated that 14,000 to 20,000 new classrooms are needed each year just to replace outmoded and obsolete facilities. Current effort is not eliminating the shortage, he asserted.

Drop in Classroom Shortage?

As the question of how much aid was argued, the question of how great is the need was in the news again. The U. S. Office of Education Health, Education and Welfare Department reported in January that the estimated shortage of public school classrooms was 140,400 last fall. The figure represented a 12 per cent drop from the 159,000 shortage figure reported by the states for 1956.

The Office of Education said the estimated number of pupils in excess of normal classroom capacity dropped from 2,295,000 to 1,937,000, according to state reports. It was emphasized that the report was preliminary, based on data supplied by the states for fourth annual fall survey of public school enrollment, teachers and housing.

The indicated shortage of 140,400 classrooms was broken down as follows: needed to accommodate students in excess of normal capacity, 63,200; needed to replace makeshift, obsolete or otherwise unsatisfactory facilities, 77,200. According to state reports, 68,600 classrooms were built between the fall of 1956 and the fall of 1957. This would be an increase of 9.3 per cent over the number constructed during the previous year. Estimate for 1956-1957 had been 69,200.

Ike Asks No New Aids

The President's budget does provide for a continuation of aid for the construction and operation of schools in areas burdened by an influx of Federal workers, but it proposes a contraction of this program over a few years and contains no proposal for construction assistance in general. It states, in fact, that no such suggestion will be made to Congress this year.

The House Education Committee, conducting extensive hearings on extension of the laws providing Federal aid for school construction and operation in "Federally-impacted" areas, heard Administration spokesmen (Health, Education and Welfare officials), say that while the budget proposed a five-year tapering off of the program in which local school districts could adjust to the revenue loss, the official position would be to cut off funds as soon as possible. Two laws covering this activity of aid to impacted areas have been channeling some $100 million each year into 3000 districts.

Following the hearings, Rep. Ralph W. Gwinn (R.-N.Y.), said he planned to introduce the Adminis-

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tration proposal for curtailing the aid.

Post Office Department Reports Its Biggest Building Year

As the President's new proposal for a $2 billion program "to modernize the obsolete physical plant of the Post Office Department" was unveiled, it was worth noting that the Department had the biggest building program in its history already under way.

Construction was started on 544 new buildings for the Post Office Department during fiscal 1957. Most of these were post offices. The total square footage involved exceeded two million, and the number of units represented the largest number of buildings started in any one year of Post Office history. Estimated construction cost is placed at more than $20 million.

The buildings were erected by private contractors in accordance with the Department's own specifications, then leased for postal use on a long-term basis. During the latter part of the year, an average of 13 new buildings put underway each week was the pace of the program.

The lease-purchase method of constructing buildings had showed considerably less promise for the Post Office Department. Only three contracts were awarded for construction under this system. Thirteen additional projects were approved by Congress during the period, however. This brought to 48 the number of projects approved for lease-purchase construction since the inception of the program. These projects will contain 1.4 million sq ft of space with total approved maximum construction cost of around $24 million.

This information was contained in the annual Post office report which stated that 28 of the lease-purchase projects were under architectural and engineering contracts. Working plans and specifications on 12 have been completed preparatory to bidding. Of the 12 for which plans and specifications were completed, contracts have been awarded on three, two are ready for advertising and seven awaited readvertising. The balance of the projects was reported to be in varying stages of preliminary planning and development.

The Department reported that significant gains were made in the light, color and ventilation program. By the end of fiscal 1957 there had been improvement of more than four million sq ft of space at a total cost of approximately $16.5 million. An additional 36 million sq ft of space is urgently in need of modernization.

Gore Asks $500 Million for Public Works Program

Saying he thought the time for it had arrived, Sen. Albert Gore (D-Tenn.), proposed a "full employment program" which would achieve its end largely through a 500 million public works program. The Federal government, under terms of his legislation, would put up 90 per cent of the cost of constructing highways, buildings, public schools, hospitals and health centers, airports, parks and recreation areas, river and harbor projects, power development, etc.

The Tennessee legislator said he did not want it thought that he was predicting a deep depression but that under all considerations the time was propitious for a large public works construction plan. The activities of the old Public Works Administration would be revived by the Gore proposals. A PWA would receive and review construction plans of the states and local authorities and pay $90 for every $10 of local money in carrying out the projects

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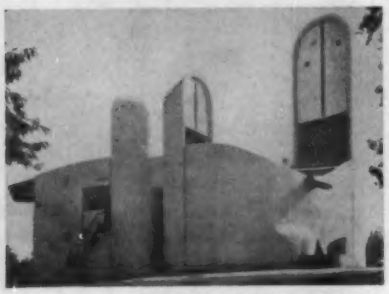

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The photographs are noteworthy. They show the existing St. John's, other Benedictine monasteries, the new living quarters, and models of the projected church, bell banner, and chapter house. In addition, drawings and plans are shown of the present installation and each consecutive stage of the master plan.

Whitney S. Stoddard, Professor of the History of Art at Williams College, received his Ph.D. from Harvard in 1941. He has held a Carnegie grant, the Harvard-Sachs fellowship, and an advanced research Fulbright.

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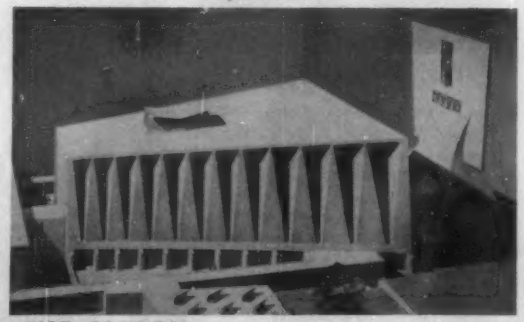

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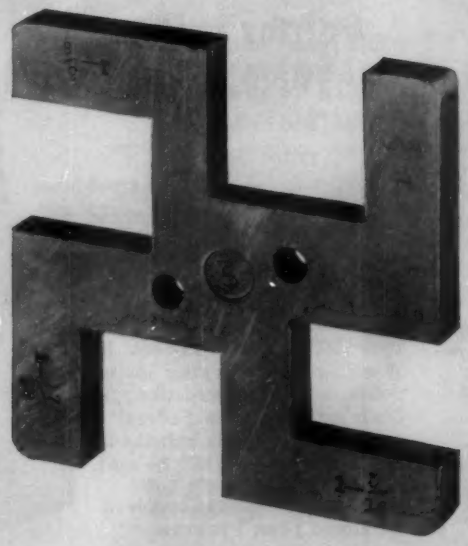

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Washington Topics

it approved. The administrator would report to Congress every January 1 and July 1 with a detailed accounting for all monies received and disbursed.

A Vote from Labor

Earlier in the year organized labor had begun to talk about Federal government expenditures on construction. The United Steelworkers of America was one AFL-CIO affiliate to speak out. Its president, David J. McDonald, keynoted a meeting of 1000 local union leaders here in Washington by urging an enlarged public works construction program. Such action by the Federal government could virtually halt the business downturn "overnight", he said.

Sparkman Asks Extension of GI Home Loan Program

New legislation in the second session of the 85th Congress included a bill by Sen. John J. Sparkman (D-Ala.), chairman of the Senate's housing subcommittee, calling for a one-year extension of the GI home loan program beyond its present expiration date of July 25.

One of the aims of the bill is to provide credit for veterans living in rural areas and small cities and towns. Certain locations would be designated housing credit shortage areas and the resident veterans would be eligible for a number of specified special benefits.

Provision also is contained in the measure for direct loans to veterans under specified conditions, with these loans having a $13,500 ceiling.

Congress passed a bill in the last session which would have extended the GI home loan, but this was vetoed by the President. Using pocket veto prerogatives, he let the measure die after Congress had adjourned.

More Housing Aids Urged

In a major floor speech in February, Senator Sparkman lambasted the Administration's housing proposals for 1958, holding them to be wholly inadequate for the job he thought should be done. He called for far more extensive legislation than the Budget had suggested as a bulwark against business recession. Included was a strengthening of residential construction and the urban renewal and public housing programs. Furthermore, he would increase purchasing authority of the Federal National Mortgage Association and hold the line against any increases in the interest rates.

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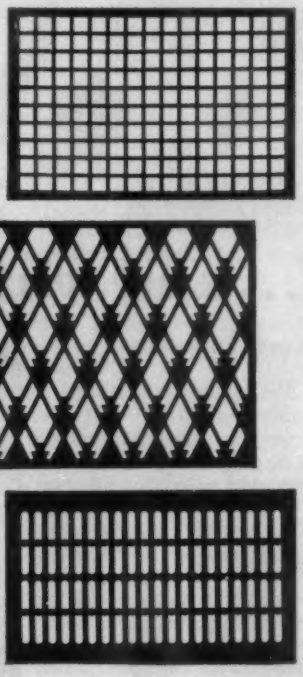

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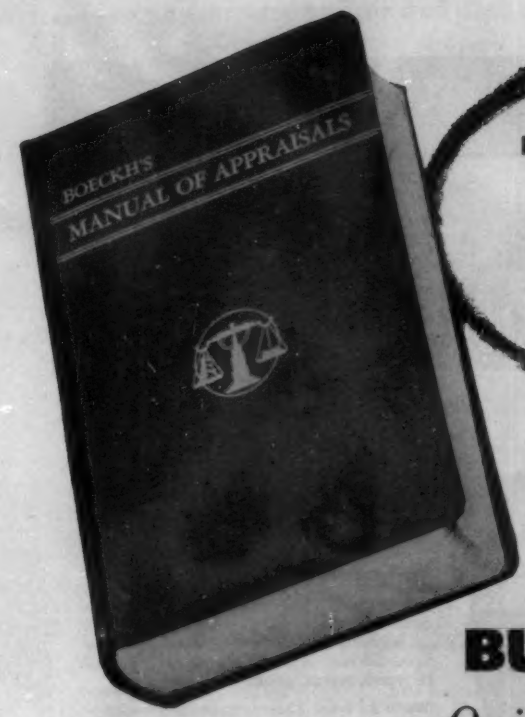

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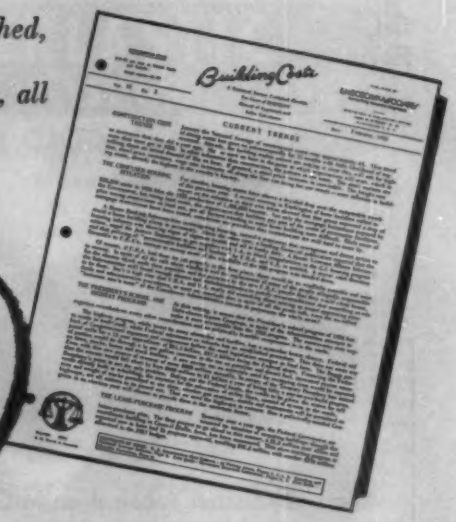

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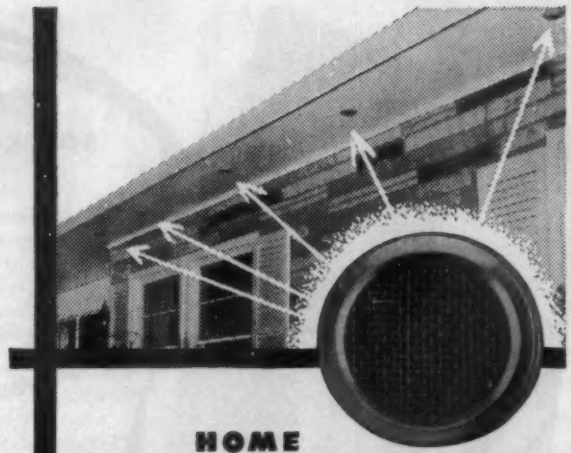

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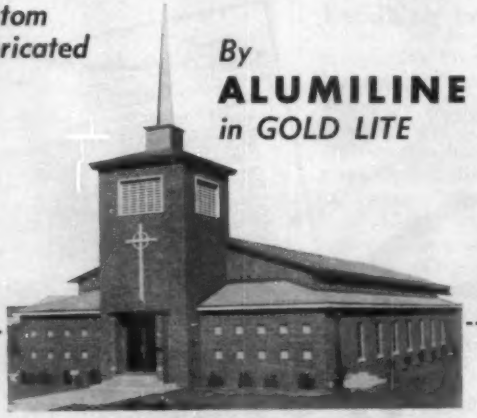

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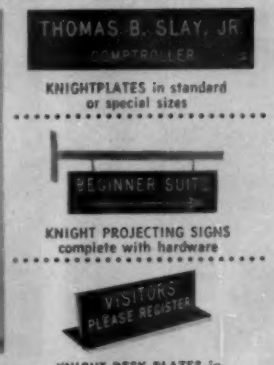

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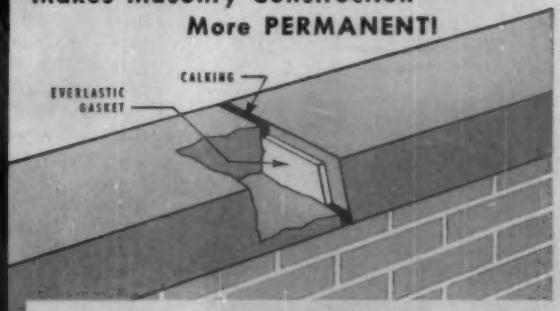

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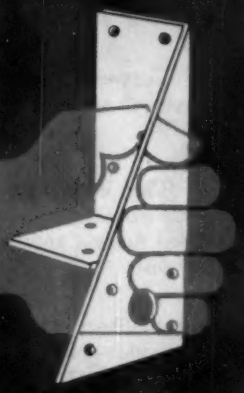

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Washington Topics

Congress Pushes Funds for Air Force Construction

Unusually fast Congressional action came early in the second session of the 85th Congress on a measure authorizing Air Force construction in the amount of $549,670,000. Appropriations to cover the work were being worked through Congress simultaneously.

A great sense of urgency was applied to this bill in both House and Senate so the work entailed could get underway during the 1958 construction season. Repeatedly it was pointed out that if the legislation was not hurried, an entire construction season would be lost.

The money is to be spent on installations for the semiautomatic ground environment system (SAGE), for ballistic missile detection systems, for ballistic missiles and for alert and dispersal facilities for the Strategic Air Command.

The $218,600,000 for alert and dispersal facilities will continue the present dispersal program and provide facilities designed to permit SAC to react within 15 minutes after an alert.

Both authorization and funds came in the form of supplemental fiscal 1958 requests.

No Reorganization Now Expected On U. S. Construction Data

There will be no change in the statistical gathering effort of the Federal government in the construction area beyond the proposed improvement of Census Bureau data gathering efforts in fiscal 1959, a highly placed Budget Bureau official said.

The consolidation of the tabulating and reporting effort in the Business and Defense Services Administration of the Commerce Department had long been talked of and rumors were rampant a few weeks ago that the move would be proposed for the coming fiscal period.

This now has been denied, however, and the Bureau of Labor Statistics in the Department of Labor will retain its operations in the housing categories.

One proposal which was under serious consideration earlier would have transferred the housing and Federal construction statistical effort from BLS to BDSA, and the labor force statistical work from BDSA to BLS.

Discussions on the proposed transfer of these authorities will continue and new suggestions may be contained in the 1960 budget.

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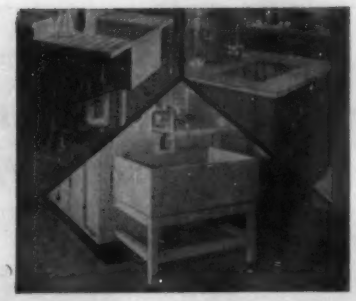

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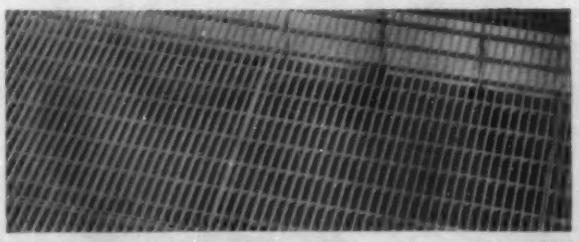

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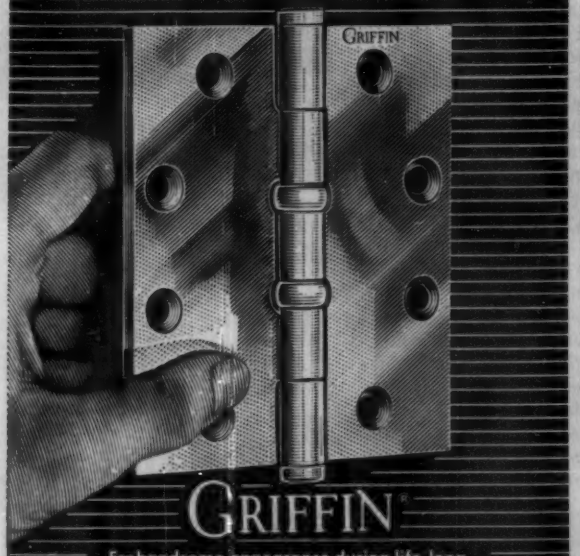

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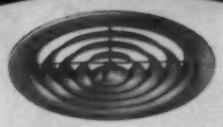

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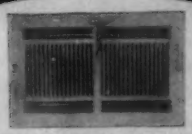

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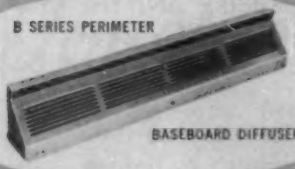

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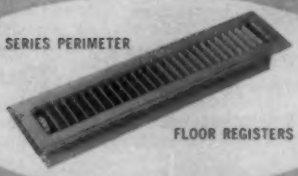

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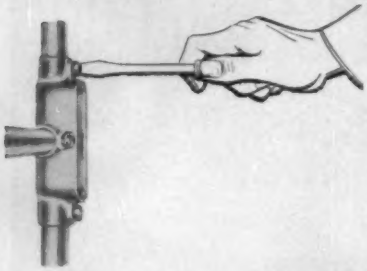

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Continued from page 62

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"Except the Lord Build . . ."

Building the New Church. *By William S. Clark. Religious Publishing Company (Jenkintown, Pa.), 1957. 68 pp., illus.*

"Except the Lord build the house, they labor in vain that build it." (Psalm 127) Thus Mr. Clark, editor of *Your Church* magazine, ends his book. In a way, one hardly need say more; the spirit of the quotation pervades what he writes.

This manual, in spite of its brevity, presents an amazing amount of sensible and useful information. The book is intended primarily for ministers, building-committee members, and interested members of congregations and should go a long way toward preventing those who read it from "laboring in vain."

Architects, too, will be enlightened and inspired by Mr. Clark's work, since it deals with, among other vital topics, organization, surveys, fundraising, selection of site and architect, design, budgeting, and art. It would also give an architect some "ammunition"—if he needed it—to fire gently at building-committee members whose vision of a church stops at a "traditional" building. A bibliography and photographs of a few outstanding contemporary churches are included.

"There is no ideal American church building," Mr. Clark says, adding, even more truthfully, "but there is an ideal church building for every congregation on a particular site."

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The new built-in 2-Zone, surprisingly compact for its high capacity, requires little more space than a conventional refrigerator. It is 82 inches high, with a cabinet 36 inches wide and 24 inches deep. Architects can easily match the new unit to any kitchen by specifying right- or left-hand doors and their choice of frost white, rich antique copper, lustrous Satinized stainless, or a prime coat for special color styling. Simple six-step instructions make installation quick and easy.

The approval seals of both Good Housekeeping and Parents' Magazine have been granted the 2-Zone, which reportedly sells at the lowest price per cubic foot of capacity. Complete information is offered to architects who write the manufacturer, Manitowoc Equipment Works, Manitowoc 38, Wis.

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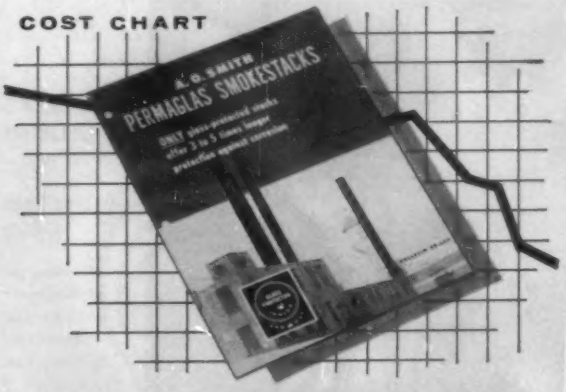

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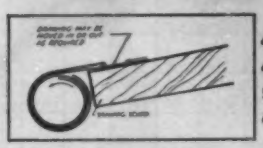

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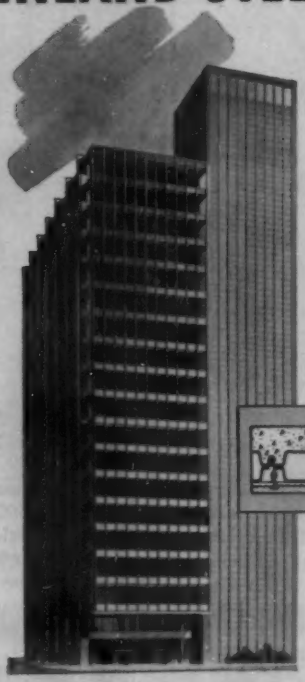

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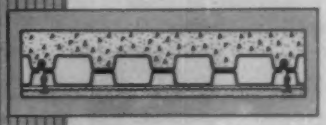

Concrete fill over cellular steel floors. Suspended ceiling of 1 in. Zonolite plaster on metal lath. 4-hr. rating.

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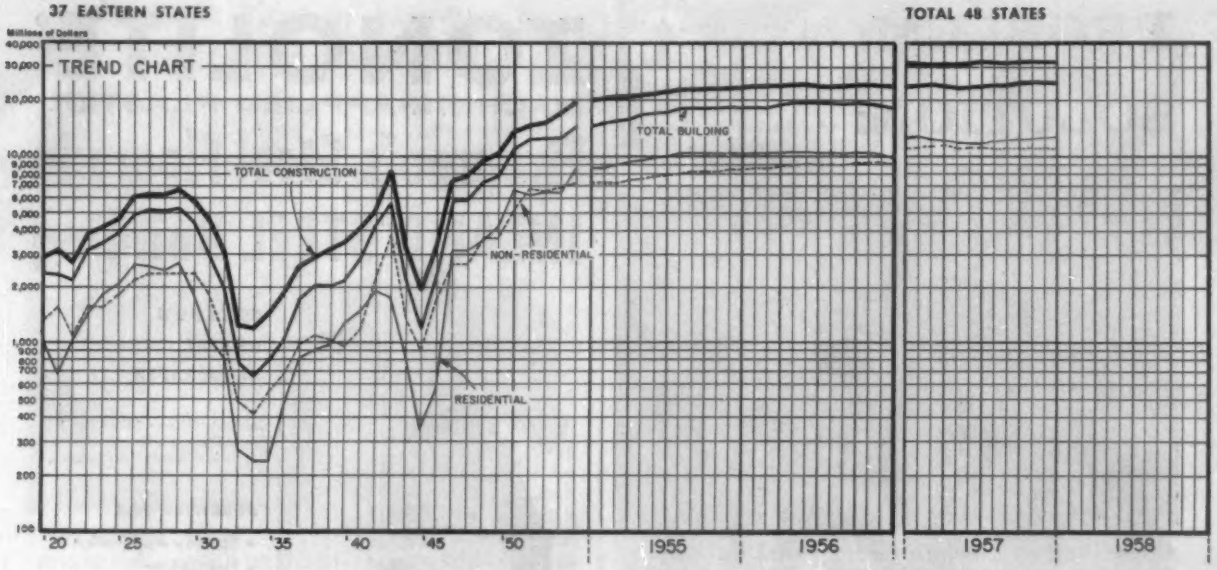
Current Trends in Construction

As Reflected in Contracts for Future Construction in the U. S. Reported and Tabulated by F. W. Dodge Corporation



Dodge Announces 1957 Total: Up Two Per Cent

Although contracts for the final month declined four per cent from the comparable 1956 figure, the 1957 total of construction contracts in the U. S., as reported by F. W. Dodge Corporation, represented an increase of two per cent over 1956. The 1957 total of $32,173,412,000 "undoubtedly set a new all-time record," Dodge vice president and economist George Cline Smith said, although strictly comparable figures are not available for years before 1956. The 1957 figure was the first annual construction contract total ever released for the U. S. as a whole, since the Dodge statistics prior to 1957 covered only the 37 states east of the Rockies. Back data on the 48-state basis were compiled for 1956 to make possible comparisons with 1957. Mr. Smith noted, in an analysis of the figures, that "the most remarkable feature" of the 1957 contracts was probably the midyear reversal in trend affecting all three major construction categories and producing these percentage changes from the comparable 1956 period: (first half figure first, second half figure second) nonresidential—up five per cent, down eight per cent; residential—down five per cent, up eight per cent; heavy engineering—up 21 per cent, down 13 per cent.

TOTAL CONSTRUCTION

Construction Contracts—37 Eastern States

Valuation (in thousands of dollars)

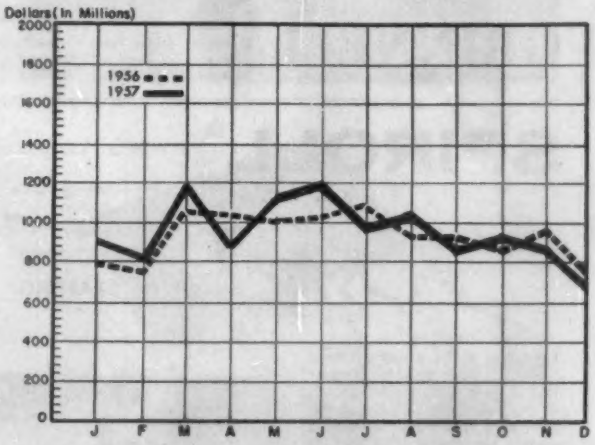
YEAR	ANNUAL TOTAL	MONTHLY AVERAGE	YEAR	ANNUAL TOTAL	MONTHLY AVERAGE
1935	1,844,546	153,712	1952	18,070,248	1,505,854
1943	3,273,990	272,832	1953	18,804,203	1,567,016
1947	9,175,225	764,602	1954	20,595,612	1,716,301
1950	16,592,018	1,382,668	1955	24,631,634	2,052,636
1951	17,150,887	1,429,240	1956	24,627,710	2,052,309

MONTHLY TOTALS

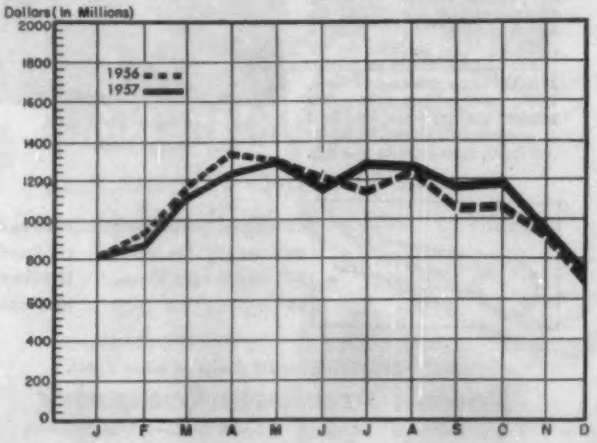
	1956	1957		1956	1957
JAN.	1,761,443	1,778,290	JULY	2,292,174	2,300,517
FEB.	1,774,813	1,717,549	AUG	2,150,784	2,275,211
MAR.	2,181,458	2,447,584	SEPT.	2,105,674	2,049,580
APR.	2,348,347	2,149,678	OCT.	1,870,317	1,974,106
MAY	2,399,809	2,675,079	NOV.	1,757,431	1,875,513
JUNE	2,326,790	2,424,151	DEC.	1,658,670	1,594,422

12 mos. 1957 25,261,680

NONRESIDENTIAL BUILDING



RESIDENTIAL BUILDING



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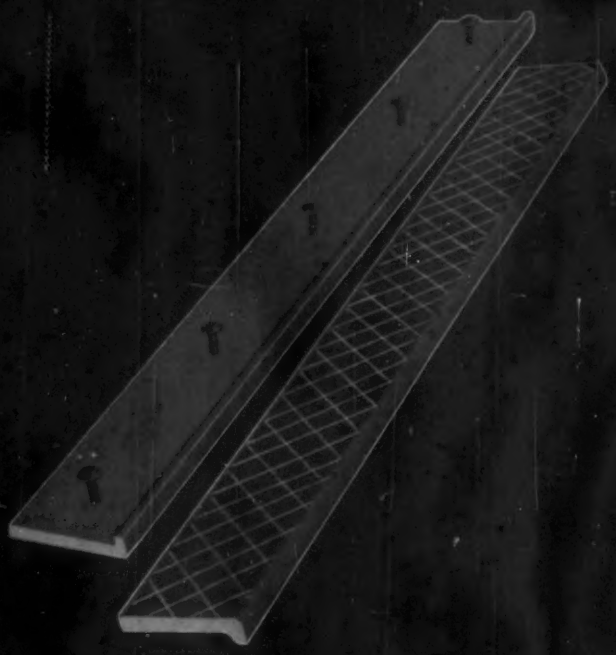

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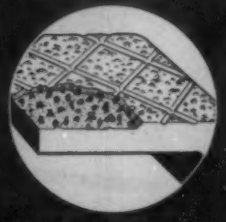

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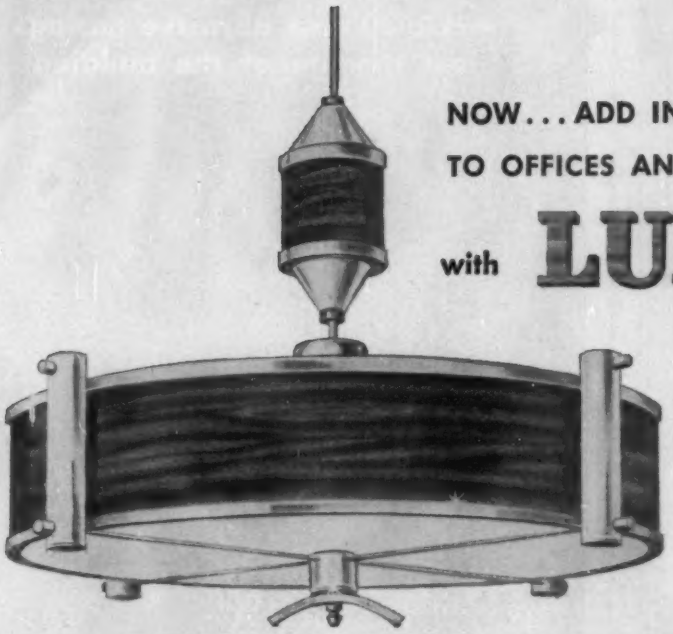

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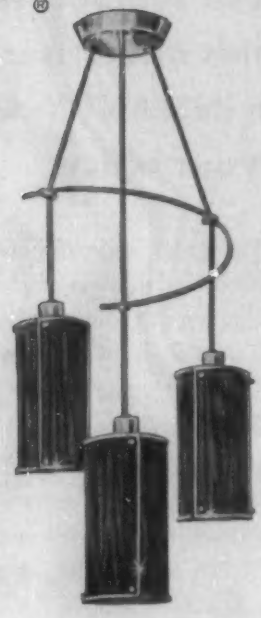

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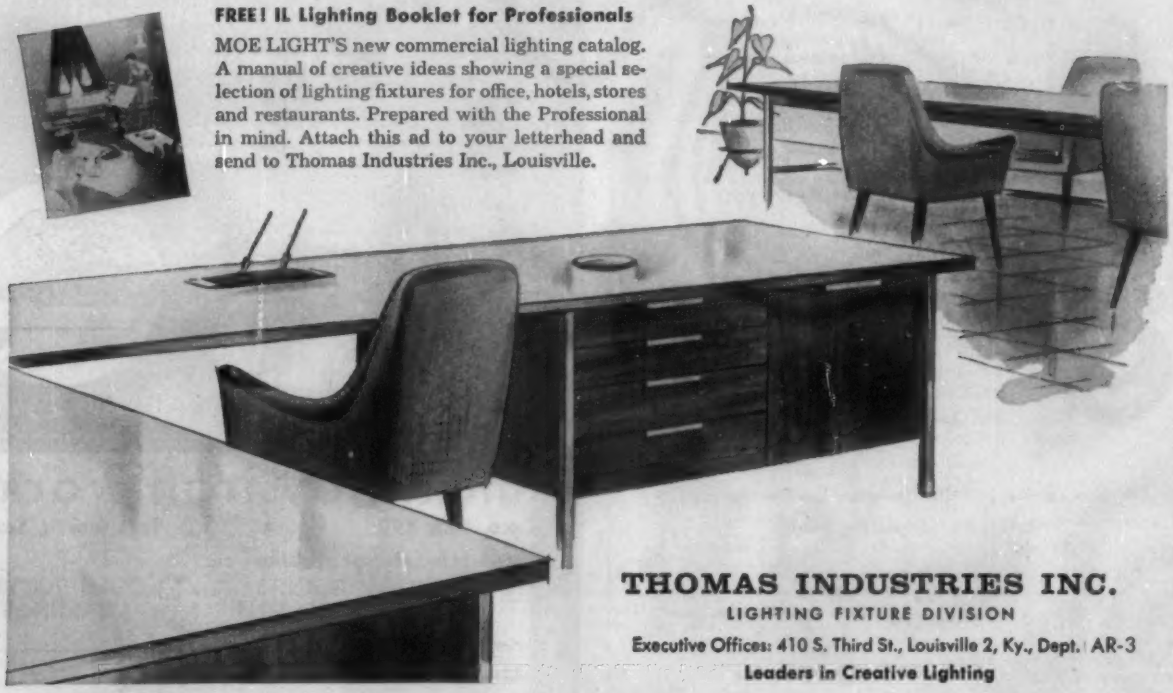

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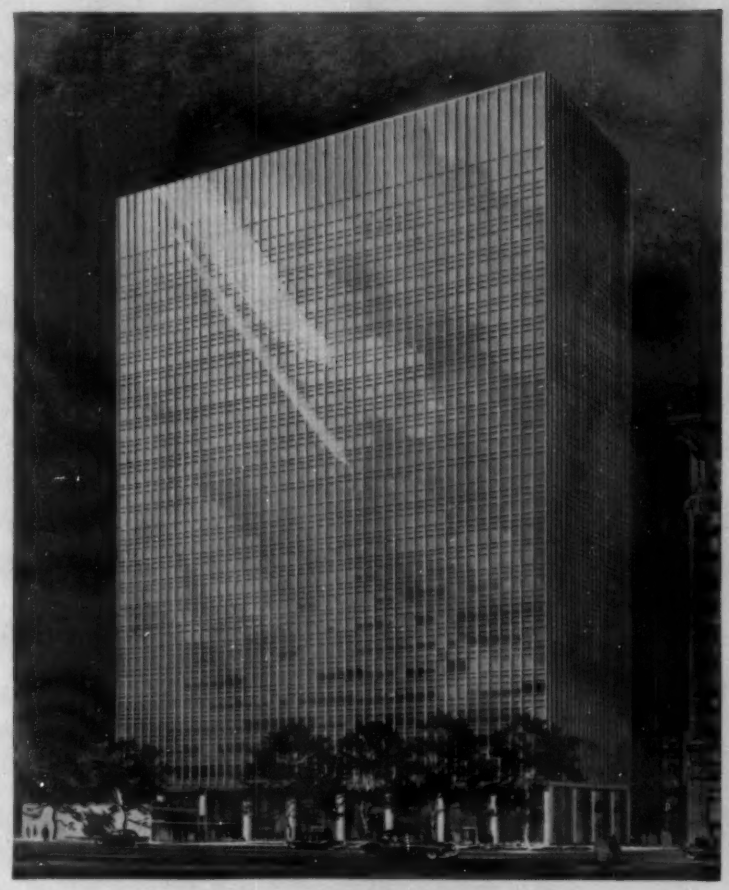

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